MID-AIR TRAGEDY: NTSB REPORT ON P-63F/B-17G COLLISION

MARCH 2025 · Vol.61/No.3

AIR CLASSICS

Where History Flies

DAY OF THE PRIVATEER

NAVY'S FAMED WWII PATROL BOMBER

FAILED PHOENIX

SAGA OF McDONNELL'S FOUR-JET LINER

FLIGHT OF GLIMPY

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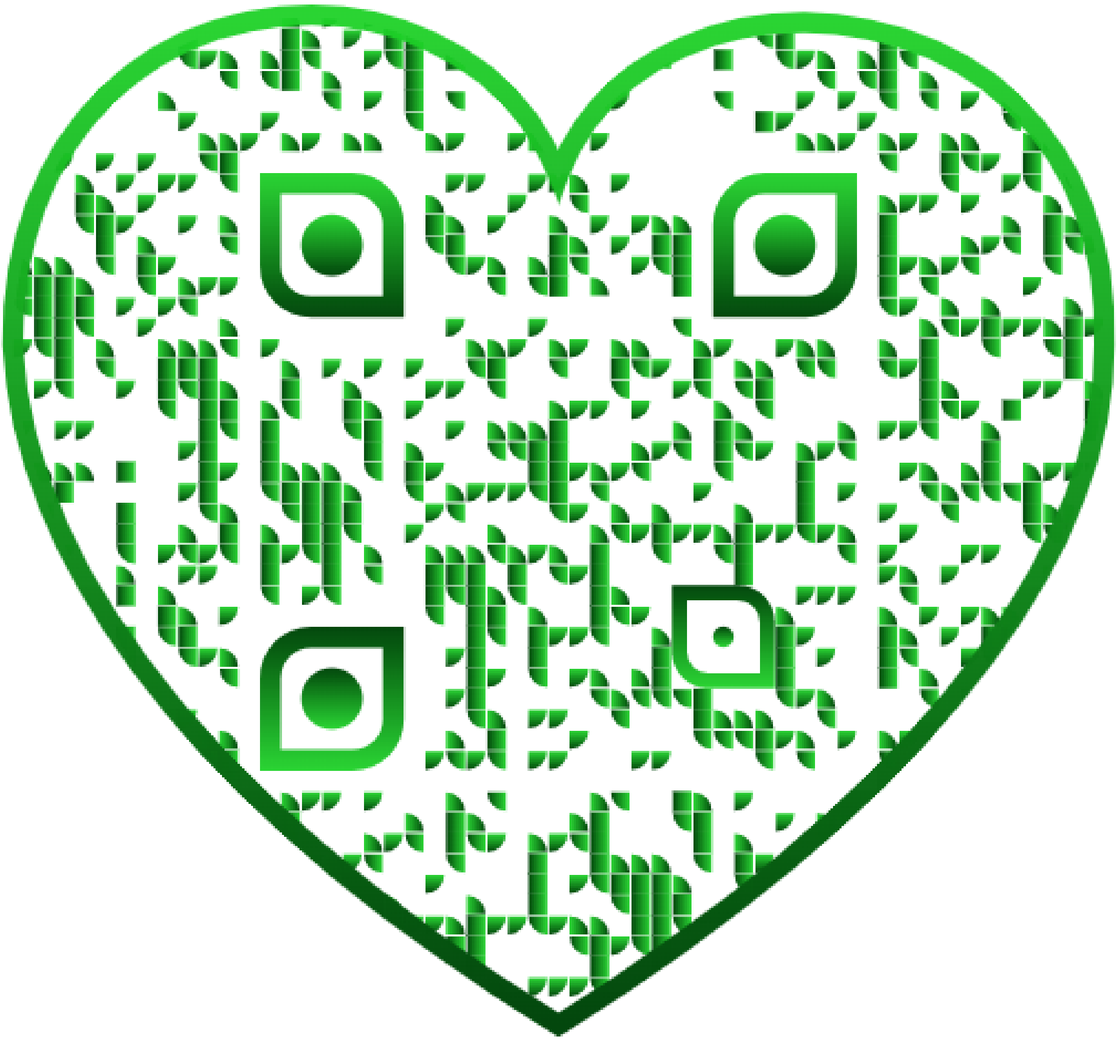

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COVER: As noted in last month's installment of "Colors of War," the Fairey Battle was slaughtered during the Battle of France. There were numerous reasons for this — the aircraft itself, poor intelligence and planning, along with the stubborn refusal to send the Battles into combat with effective fighter escort. The type was hurriedly withdrawn from front-line service but hundreds remained in storage and it was decided to use these planes for a variety of training duties. The biggest user was the Royal Canadian Air Force. The RCAF received its first eight Battles in August 1939 and hundreds would follow. They were employed as dual control trainers, target tugs, and gunnery trainers with the many bombing and gunnery schools of the British Commonwealth Air Training Plan based at fields across Canada. This fascinating photo shows a well-worn Battle preparing for another gunnery flight. The pilot does not even bother to shut down the Merlin as the gunner trainee in the rear cockpit hands down a canvas bag of spent casings while an armorer prepares to hand up a fresh .303-caliber machine gun as the next gunner trainee looks on. The .303 was less than an effective weapon and Luftwaffe *pilots derisively referred to it as a "paint scratcher." (RCAF)*

THESE PAGES: Tom Reilly and Ray Fowler prepare to touch down on the runway at Douglas, Georgia, in the North American XP-82 Twin Mustang. The twin Merlin prototype (engines overhauled by Vintage V-12s) was, of course, restored by Tom in a multi-year process and the aircraft is currently being offered for sale by Platinum Fighters (www.platinumfighters.com). Photography by Michael O'Leary

Society of AIR RACING HISTORIANS GOLDEN PYLONS

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Toll-Free: 800.562.9182 (Continental US Only) (9-5 PST Mon.- Fri.)

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PROUDLY PRINTED IN USA

AIR CLASSICS (ISSN 0002-2241) is published monthly by Challenge Publications, Inc., 9800-D Topanga Canyon Blvd., Chatsworth, CA 91311. Copyright ©2025 by Challenge Publications, Inc. All rights reserved. Nothing in whole or in part may be reproduced without written permission of the publisher. Send editorial and advertising material to 9800-D Topanga Canyon Blvd., Chatsworth, CA 91311. Publisher assumes no responsibility for unsolicited material. All photos, artwork, and manuscripts must be accompanied by stamped self-addressed return envelope.
POSTMASTER — Send address changes to AIR CLASSICS, PO Box 16149, North Hollywood, CA 91615. Please give six to eight weeks advance notice of address change. Send old and new address plus recent mailing label, if available. Subscription rate: US and possessions, one year — $89.95; Canada, Mexico, and other foreign countries — $103.95 (US funds). Periodicals postage paid at Chatsworth, CA, and additional mailing offices.

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MESSAGE FROM THE PUBLISHER

Collective Memory.” What does it mean and does the American social pool have such a thing? Basically, Collective Memory is a concept rooted in sociology that supposedly allows us to recall and share our past. It could be said that Collective Memory is how we maintain our family traditions or why we follow a certain life style. This type of Collective Memory is often passed on through writings but most often via verbal communication between family members where specific events and individuals are recalled, praised, or vilified. However, some sociologists state the increasing reliance on I-phones is causing huge damage to our abilities to interrelate and pass on stories of who we were, who we are, and who we will be.

At the same time, there is a constant and growing fascination with the numerous organizations that offer huge amounts of genealogical data on families that often goes back hundreds of years. Having these masses of data at one’s fingertips is truly a benefit of today’s digital society. Individuals can spend hours delving into past generations — finding out such things as what Uncle Fred did during the Second World War or what happened when the family barn burned down in 1879. There must be a willingness to utilize this data to learn about the past and to remember our triumphs and tragedies — as individuals and as a society. Realistically, how many people take advantage of this increasing storehouse of data to learn about the past? Actually, quite a few but it seems to be a quest undertaken by those of us that are a bit older since the past couple generations seem, at least superficially, to only care about the present.

Besides the digital gathering and dissemination of such data, we have other forms of Collective Memory. These take the shape of museums and libraries that store and display all sorts of artifacts on who we are and were. Then, as humans we take part in celebrations, rites, and other commemorative forms that lead to a structure of Collective Memory. We also have to realize that Collective Memories are not set in stone — they tend to change with time and can move back and forth. For example, individuals in 2025 may have a very different Collective Memory regarding the atomic bombings of Japan compared to individuals in 1945.

Collective Memory may also have a bit to do with society being able to have more time to indulge in such activities. The term Collective Memory apparently was first used by a French sociologist and philosopher named Maurice Halbwachs in his 1925 book *Les cadres sociaus de la memoire*. That means the term is only 100-years-old — not much in the span of human history.

So, you might ask, why all this carrying on over Collective Memory? During December, I was standing in the rain outside what had been the massive Ford Motor Company Assembly Plant in Richmond, California. For those that may not know it, Richmond as a massive center of WWII production. The brick and glass Ford plant was designed by noted architect Albert Kahn, who was known for his “daylight factory” design that allowed natural light to flow into workspaces through the extensive use of glass panels. The main building comprises some 500,000-sq-ft and was built in 1930 during the Great Depression. That event caused Ford auto production to drop but then along came WWII.

With the ban on personal automobiles, Ford rapidly and efficiently changed to building jeeps, tanks, half-tracks, armored cars, and other military vehicles. These weapons of war could literally be driven out of the factory and onto the docks for loading aboard transport ships heading to the combat zone. So efficient was Ford in changing production, that combat vehicles were pouring out of the plant by July 1942. The operation was somewhat similar to how Ford built Consolidated B-24 Liberators at Willow Run Airport near Detroit. Ford would build nearly 50,000 jeeps and 91,000 other military vehicles at this one location and it became one of only three tank depots in the USA.

With the end of the war, the economy in Richmond collapsed. Shipyards and other war-related industries shut down. Ford built its last car at the plant in 1953 and it closed in 1956. The entire area lapsed into dereliction and then the 1989 Loma Prieta earthquake caused severe damage to the area. The City of Richmond eventually put forth a plan to restore the massive building as well as many of the smaller surrounding buildings and this was accomplished by 2008. A variety of new tenants inhabited the huge structure and I walked through a portion that had been converted to a Pickle Ball arena. Not knowing much about Pickle Ball, I watched people playing the game in the same area that was once packed with Sherman tanks. The San Francisco Bay area has developed a distinctly anti-military stance so it was enlightening to watch what I would classify as “trendies” banging their Pickle Balls back and forth. Did they have a Collective Memory of what had taken place in that very building or, indeed, the entire area not that many years ago? Probably not but the building had survived and repurposed and that alone gave the chance to learn for those that wanted to.

Nearby stood the Rosie the Riveter/World War II Home Front National Historical Park that is run by the National Park Service. Of much more modest dimensions than the mighty Ford complex next door, this museum honors all the Rosie and Ralph the Riveters that made a myriad of war items. For just a few short years, tens of thousands of people poured into this area with one common goal — to build the quality war machines needed to support the American military in the drive to defeat the Axis. These two structures are just part of the over 20 historical places of interest in the immediate vicinity.

The museum certainly relies on Collective Memory and it houses the recordings and video tapings of many individuals that worked in area’s plants. These provide hundreds of hours of fascinating listening and viewing on an America that used to be. The war plants gave many Americans their first decent-paying jobs and this allowed them to move up in society, purchase small homes, and increase their education. Originally, many Rosies were on hand to tell visitors of their life experiences but time has greatly decreased their numbers. The sympathetic development of the area — which includes the restored Victory ship SS *Red Oak Victory* — allows for all of us to view a portion of the past whose first-hand participants are slipping away.

At *Air Classics*, we hope we are establishing a Collective Memory when it comes to aviation history. As we have noted many, many times, history is a fragile commodity that needs to be protected and expanded upon. By examining all aspects of aviation history, I hope we are doing just that. Once again, your thoughts and opinions are always appreciated.

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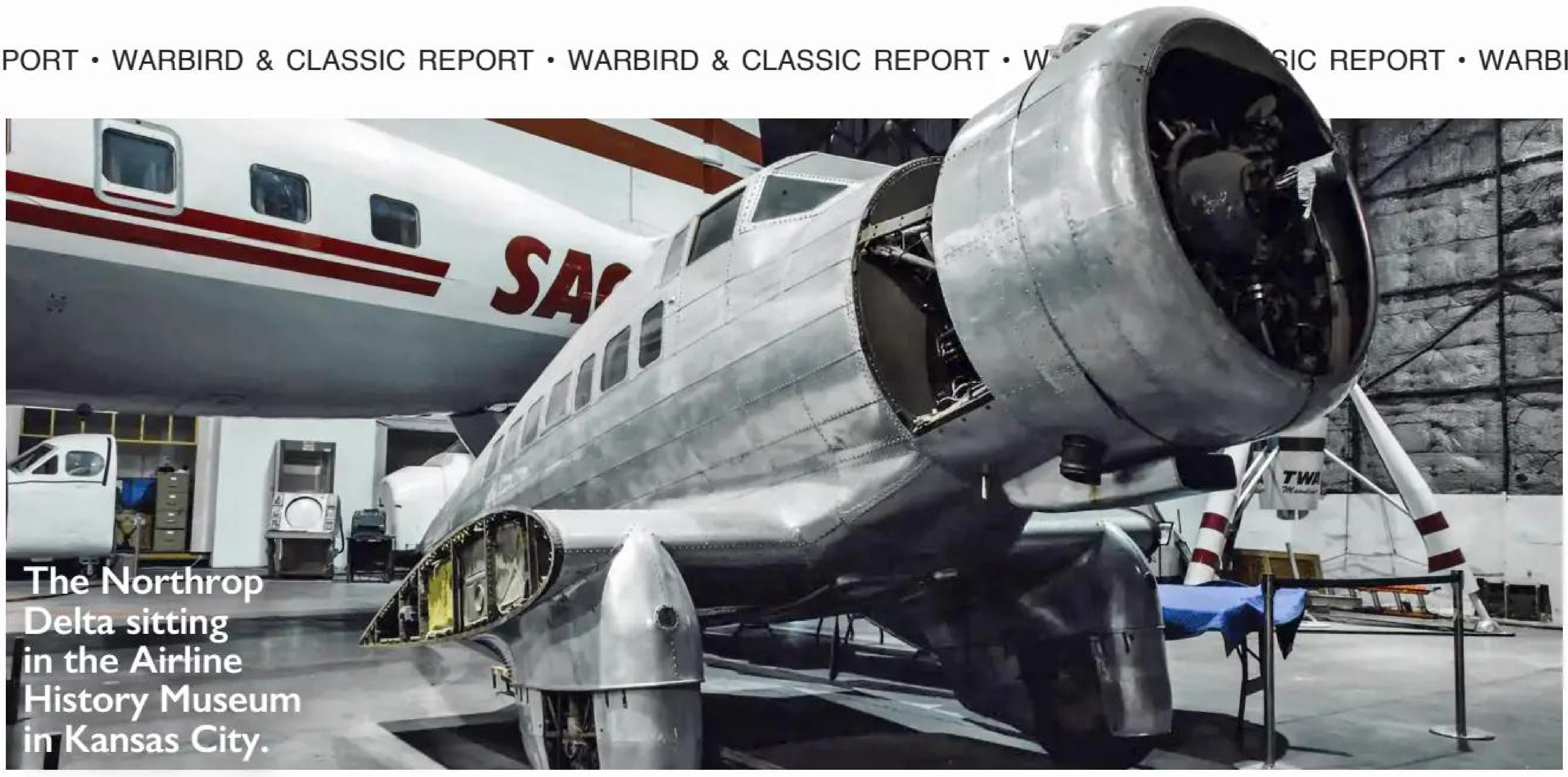


The Northrop Delta sitting in the Airline History Museum in Kansas City.

A VERY RARE NORTHROP

Northrop Delta NC13777 has been sold and will now be restored back to flying condition as the last of the Golden Age Northrops. The plane had been sitting in the locked-up Airline History Museum until obtained by its new owner. Prior to that, it had been disassembled and stored at the Amelia Earhart Airport in Atchinson, Kansas. Earlier, the rare transport had been converted to a crop sprayer but was damaged by an FAA inspector on his first flight in the Delta. In 2016, the museum announced it was going to start a fund-raising project to begin restoration. Of course, nothing ever came of it and the plane has remained dusty and neglected — until now. The new owner has the funding and talent to get this rare bird back into the sky.

BAE HAWKS FOR WARBIRDS?

As was mentioned in last month's "Message" from the publisher, it seems that the Royal Air Force is falling apart. The latest news in this downward trend may just benefit the Warbird Movement. The Hawker Siddeley (two great UK aviation names now sadly gone, the aircraft is now identified as the BAE Systems Hawk) Hawk was a private venture to replace the little Folland Gnat. The RAF liked the proposal and signed a contract for 175 Hawk T.1 trainers in March 1972, with the first example flying on 21 August 1974 with famed test pilot Duncan Simpson at the controls. Entering service in late 1976, the Hawk was a success for British aviation (possibly the last success for a British designed and built aircraft) and over 1000 examples were built in a variety of configurations.

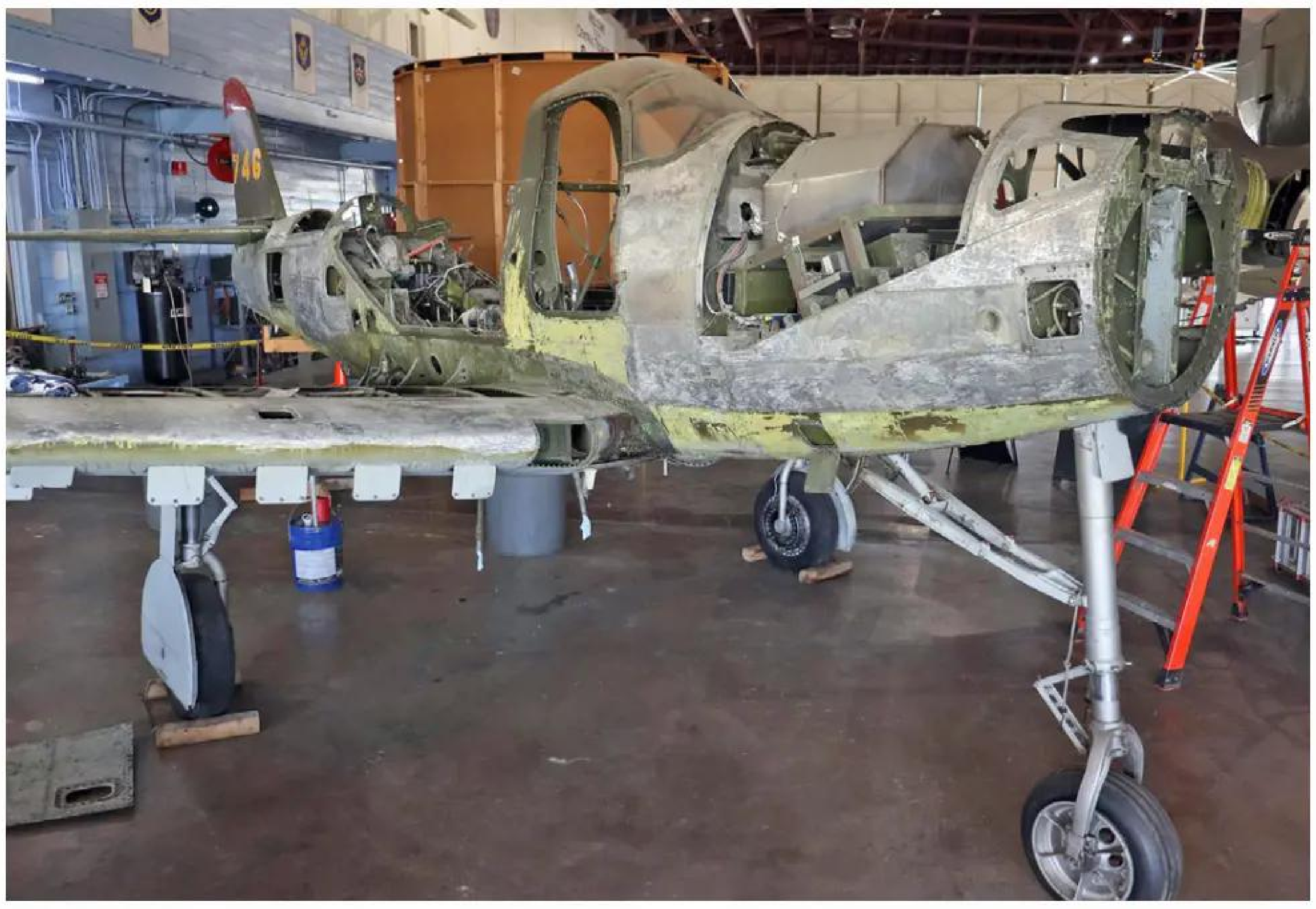
In March 2022, the RAF retired the Hawk T.1. Throughout the 1980s and into the mid-1990s, nearly 200 Hawks were built and used to form a vital part of the RAF and Royal Navy training pipeline. During the 1980s, an attempt to turn the Hawk into a "last ditch" fighter was undertaken with the T.1A and about 70 airframes were modified to carry a gun pod and Sidewinder missiles. It was an attempt somewhat like when the RAF armed Tiger Moths with small bombs to use against the possible German invasion forces. When Ronald Reagan ended the cold war, the RAF almost immediately began downsizing and closed major Hawk bases at Brawdy and Chivenor. Originally, the Hawk T.1 was planned to stay in service until 2027. All Hawk training was then centralized at RAF Valley. Of course, the best-known Hawks are those flown by the famed Red Arrows.

A British official source rationalized the elimination of the Hawk T.1s as "the reason for this is partly financial, as withdrawing an entire aircraft fleet from service is a good way to save a lot of money long term. This is because not only are airframes taken out of service, but spare parts no longer need to be bought, maintenance contracts no longer apply and the training pipeline no longer needs to provide skilled people to maintain and fly the jet. Withdrawal is a good way to save a lot of money over a long period of time." It seems that the Britis have not learned from history and need to look back to only 1939 to underscore the mistakes of this program.

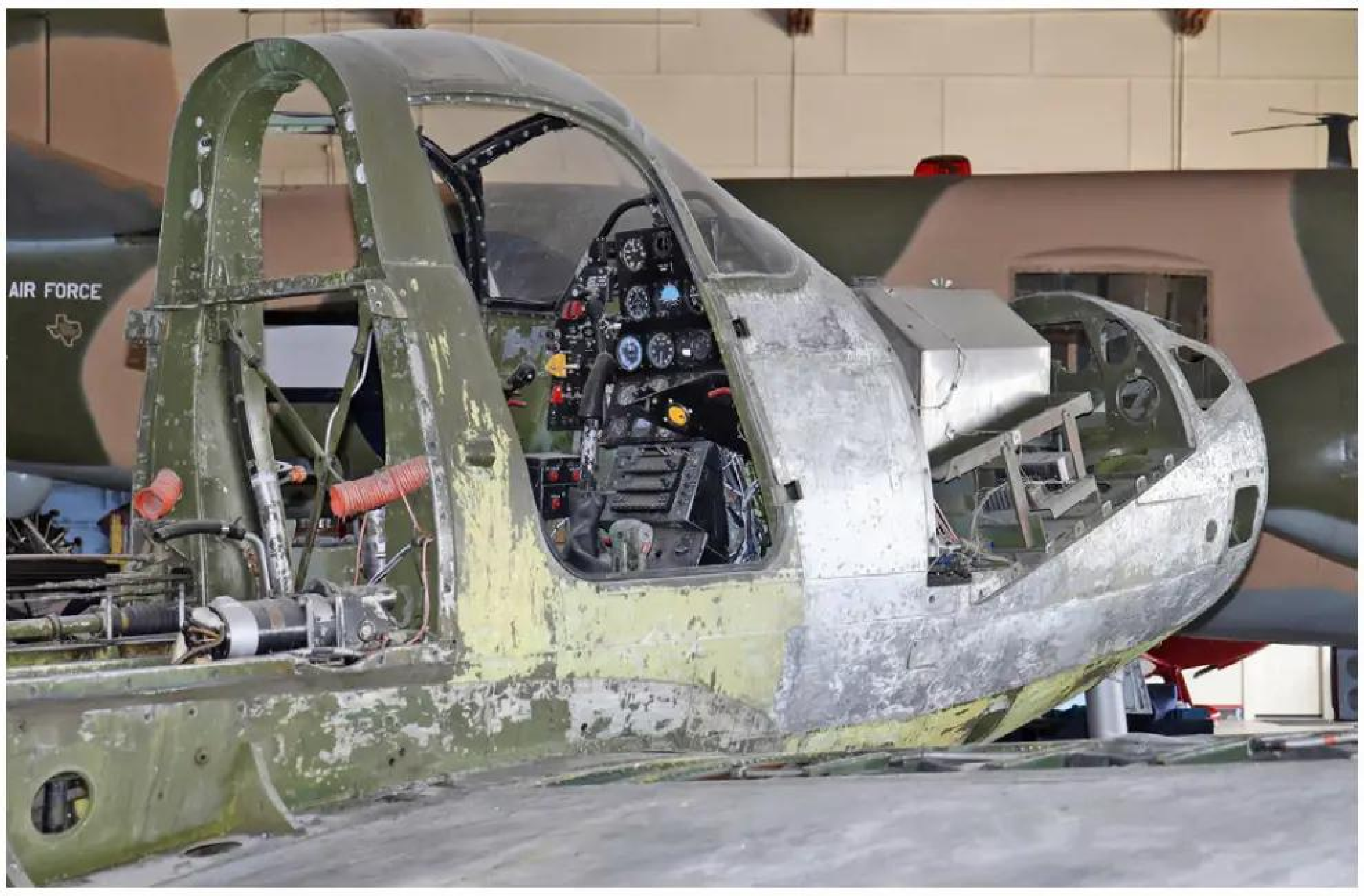
The RAF was then left with a much smaller but more modernized group of Hawk T.2s (a meager 28 aircraft) and these aircraft were scheduled to be operated until 2040. Then, in November 2024 came a surprising announcement from the RAF — Air Chief Marshal Sir Richard Knighton has called for the replacement of all T.2s "as soon as possible." The T.2 has been plagued with a series of technical problems that has nearly put an end to pilot training for the RAF. Indeed, pilots are having to be sent to the USA and Italy for training — a black eye for the service. Sir Richard said the Hawk is "outdated and unreliable. He also said that replacing the Hawk would see a financial benefit since nations like Qatar could send their pilots to the UK for training. Seems like that is scrapping the bottom of the barrel. Sir Richard would like to see a replacement aircraft like the Leonardo M-346 (Bet you have never heard of that one). Of course, the fact the plane is built in Italy seems to be of little concern to Sir Richard. The Leonardo M-346 has been flying for 20 years so it is not exactly state of art. It is also being proposed as a replacement for the US Navy's T-45 fleet, which are modified Hawks and have had more than their share of problems. So it would seem that for the moment the RAF really has no training for what they call their "fast jets" — the Eurofighters or Typhoons, you can pick the name you like.

A number of earlier Hawks are already flying on the US civil register and most of these aircraft come from air forces other than the RAF. These planes are utilized by government contractors. So, it would not be surprising to see the US Jet Warbird market benefit from the stand-down of the T.2 fleet and we would not be surprised to see some of these aircraft in US skies in the near future.

Only 28 Hawk T.2s are in RAF service and the Chief of the RAF is demanding immediate replacement for the jet trainers. That means we could soon see civil T.2s in American skies.



The Airacobra stripped in its hangar at San Marcos, Texas.

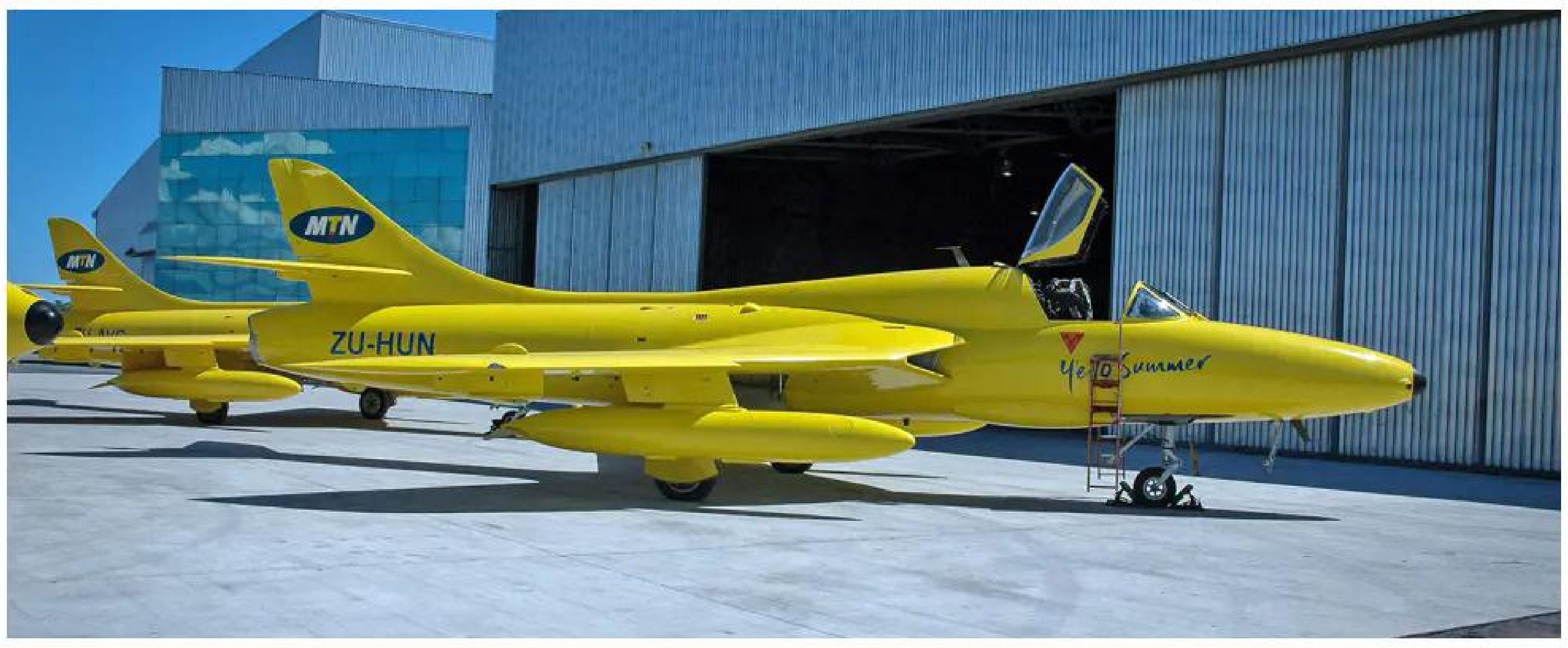


As can be seen, overall condition of the rare fighter appears to be rather rough.

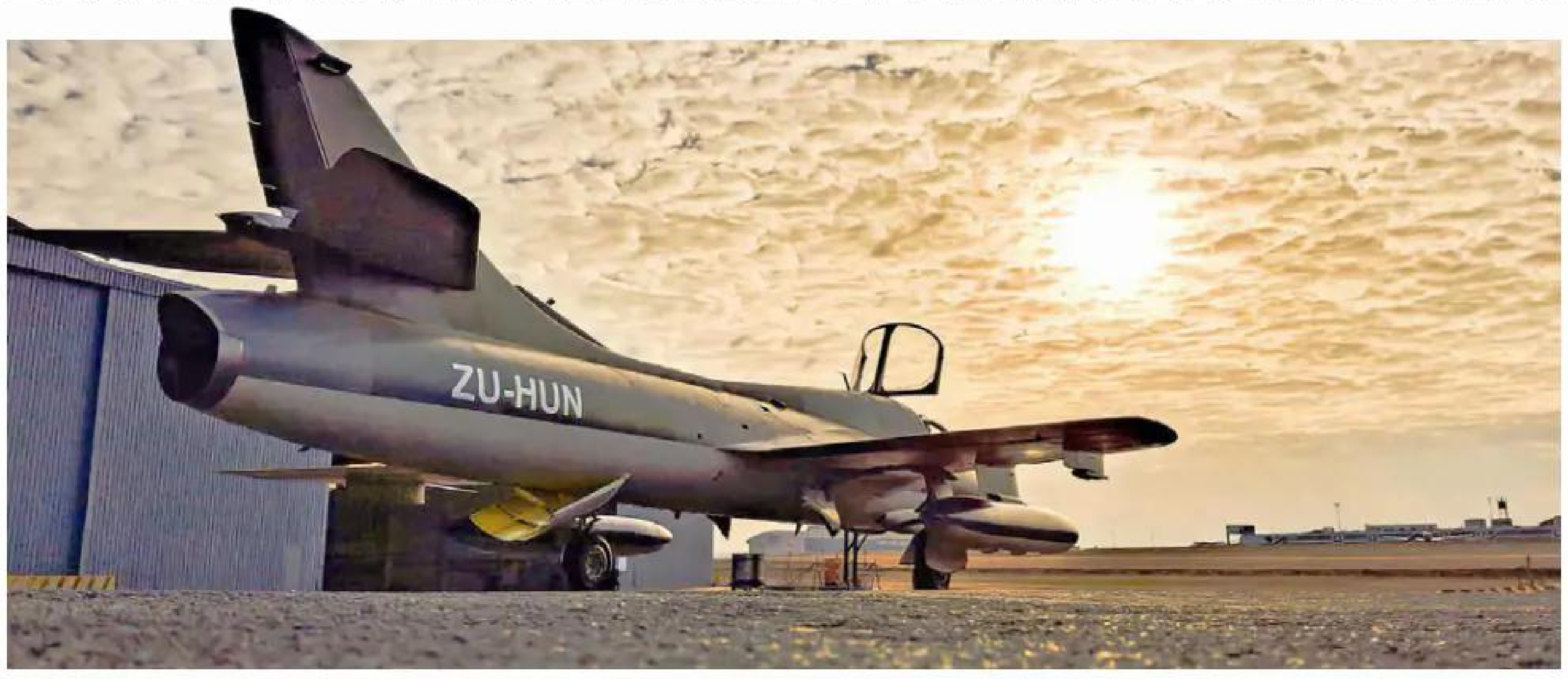
CAF AIRACOBRA

One of the rarest aircraft operated by the Commemorative Air Force is Bell P-39Q USAAF 42-19597/N6968. The early history on this aircraft is cloudy at best (and if anyone has further information/photos, then we would be very pleased to hear from you). Part of the CAF record indicates that this aircraft experienced a forced landing on a small duster strip near Hobbs, New Mexico, on 20 July 1945. The war was not yet over and we wonder if this aircraft was on a training flight or on its way to a storage facility. At the time, it was noted that the Airacobra had a total time of 392-hrs. Somehow, it was transferred to the Capitan High School in Lincoln, New Mexico. There is one slight problem with that record, Capitan High School is not in Lincoln but rather in the small town of Capitan. Known as the “Fighting Tigers,” the school has about 150 students. We got in touch with the school and, while very friendly and accommodating, they had no idea what an Airacobra was nor did their records show the history of such an aircraft being on display. The driving distance from Hobbs to Capitan is about four hours so towing the P-39Q would not have been easy. There is at least one rough airstrip near Capitan but we have no idea if it was operational back in the mid-1940s. It would be great if someone could turn up a photo of the plane at the high school. The aircraft next turned up in the late 1960s when it was stored in a tin hangar owned by Don Hull at Sugarland, Texas. Mainly complete at that time, the aircraft was in very rough condition. The P-39Q was restored back to flying condition and given its current registration but on the first flight on 21 October 1974, the gear would not come down and the fighter was damaged in the belly-landing (again, does anyone have photos?). It appears that ownership was transferred to the then-Confederate Air Force on 3 December 1974. Repaired, the P-39 was finished in Soviet Air Force markings and flown at the annual Harlingen airshow. Since then, the plane was had several accidents/incidents including a nose gear collapse and running off the runway. Maintained by the San Marcos Wing of the CAF, the Airacobra was withdrawn from use in 1997 and re-restored, emerging to make a first flight on 9 August 2001. Most recently, the plane has been painted in markings to honor WWII ace Bud Anderson. As can be seen in the photos, that paint is now stripped and its bare condition the plane looks to need a nose-to-tail restoration.

Work underway on getting the plane back into flying shape.



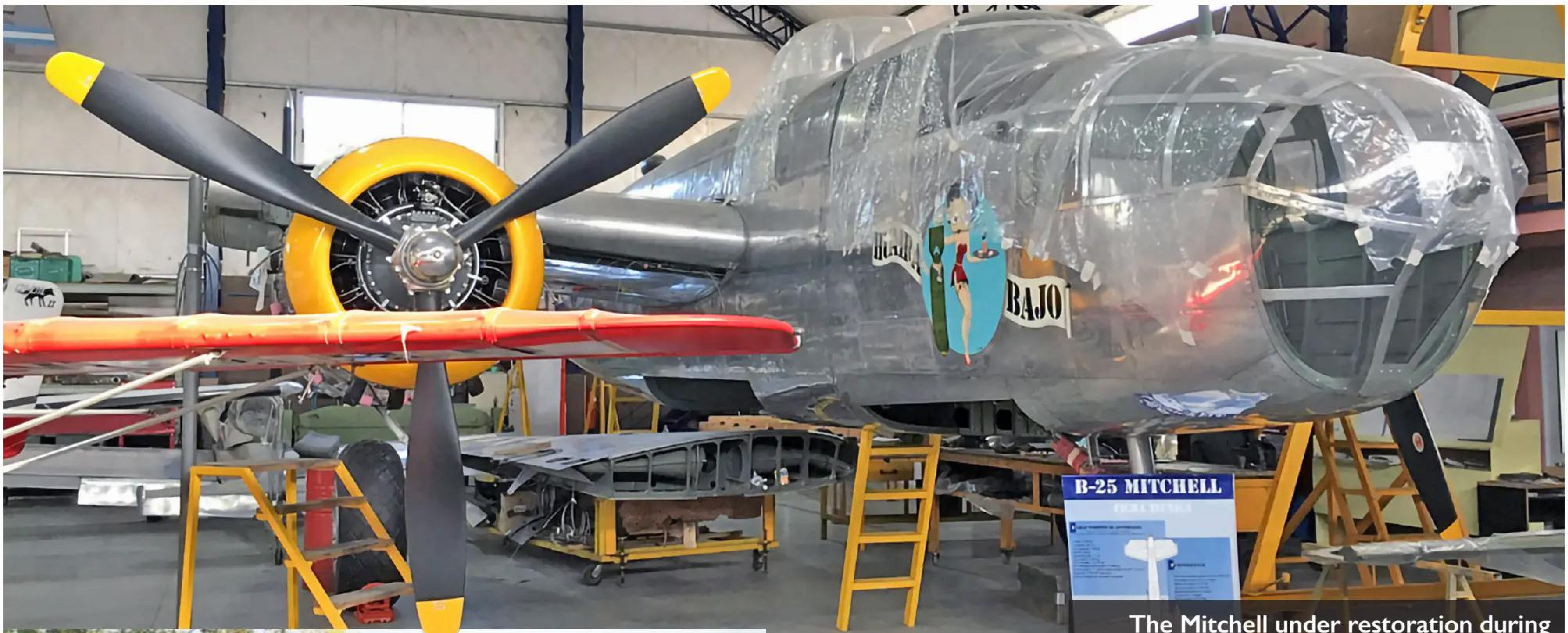
Hawker T.68 Hunter ZH-HUN when it was painted overall yellow with the name *Yello Summer*.



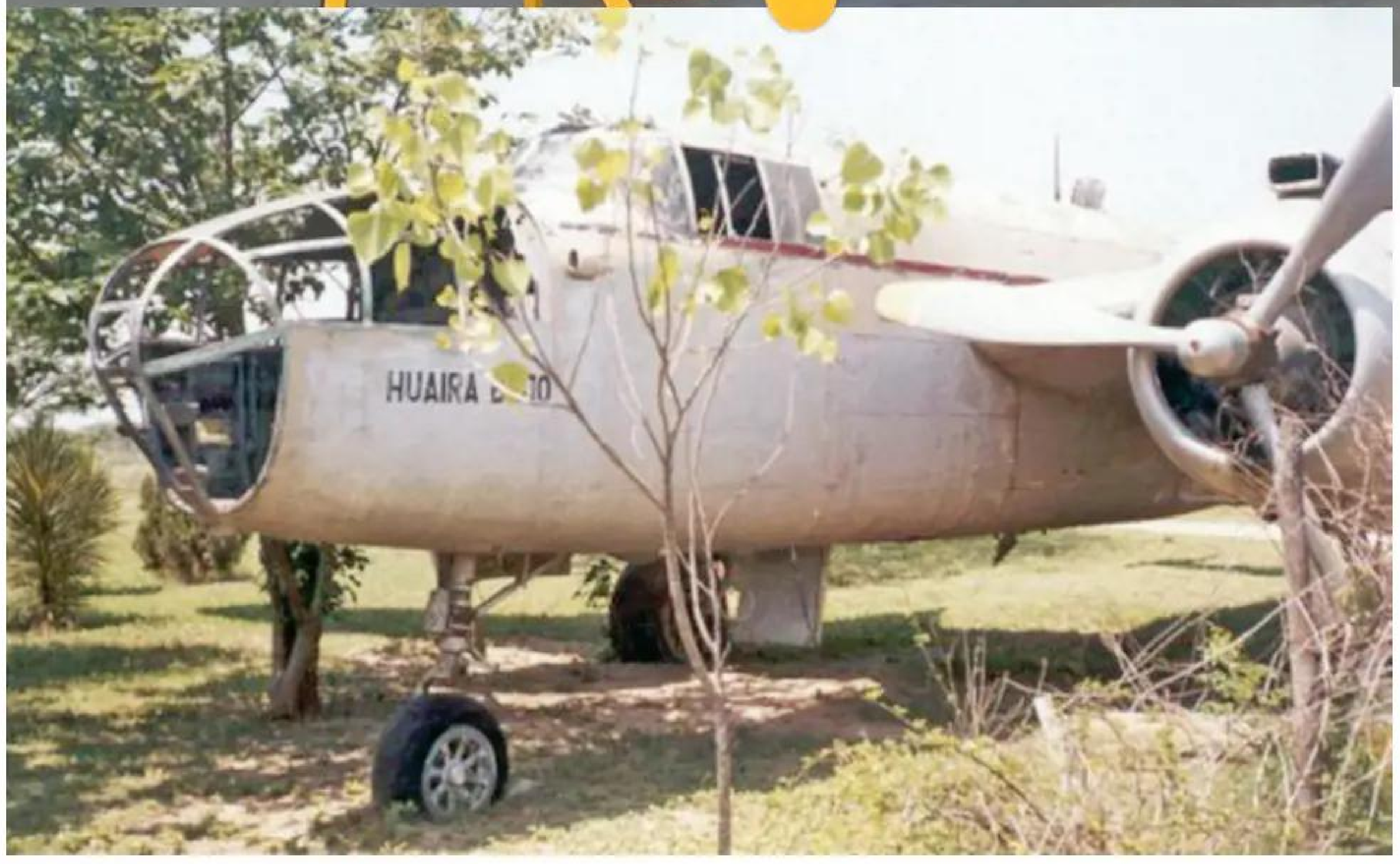
The Hunter after being returned to its Swiss style camouflage and markings.

HUNTER GEAR-UP

On 24 December 2024, Hawker T. Mk. 68 Hunter registered ZH-HUN landed gear-up at Lanseria International Airport in South Africa. The pilot was the only one onboard and was uninjured. Last operated by the Swiss Air Force as J-4202, the classic Hunter was originally built for the Royal Air Force as a single-seat F. Mk. 4 fighter and served with Nos. 3 and 111 Squadrons before being sold back to Hawker Siddeley and converted to a dual-control T.68 for the Swiss Air Force. The Swiss took delivery of the plane in 1975 and flew it until 1994. The aircraft migrated to South Africa and was based with Thunder City. It acquired an overall yellow color scheme with the name *Yello Summer* for an advertiser but then went back to its original Swiss colors. Given the low value of the Hunter, it probably depends on the extent of damage to the airframe if this aircraft will be rebuilt.



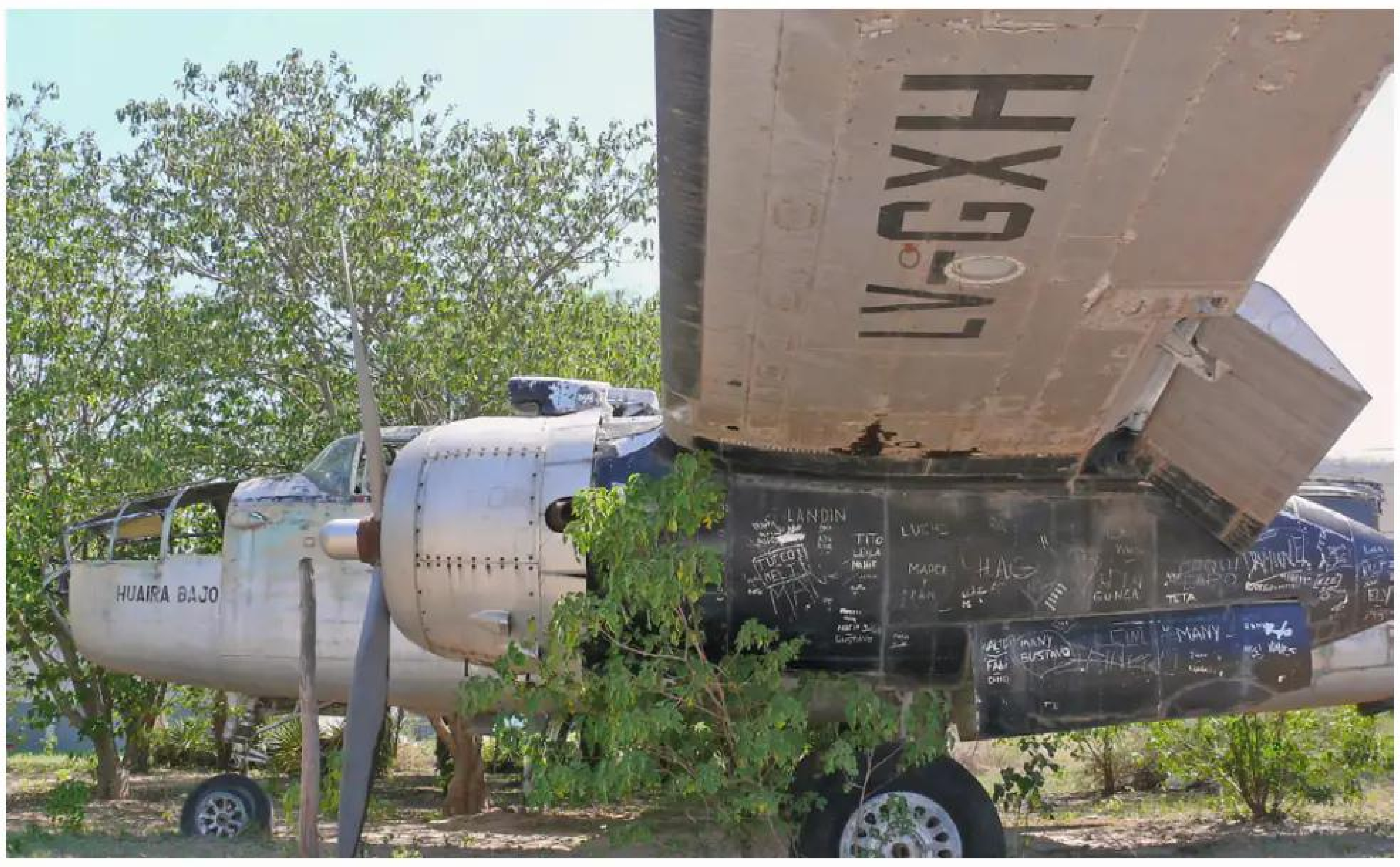
The Mitchell under restoration during 2019.



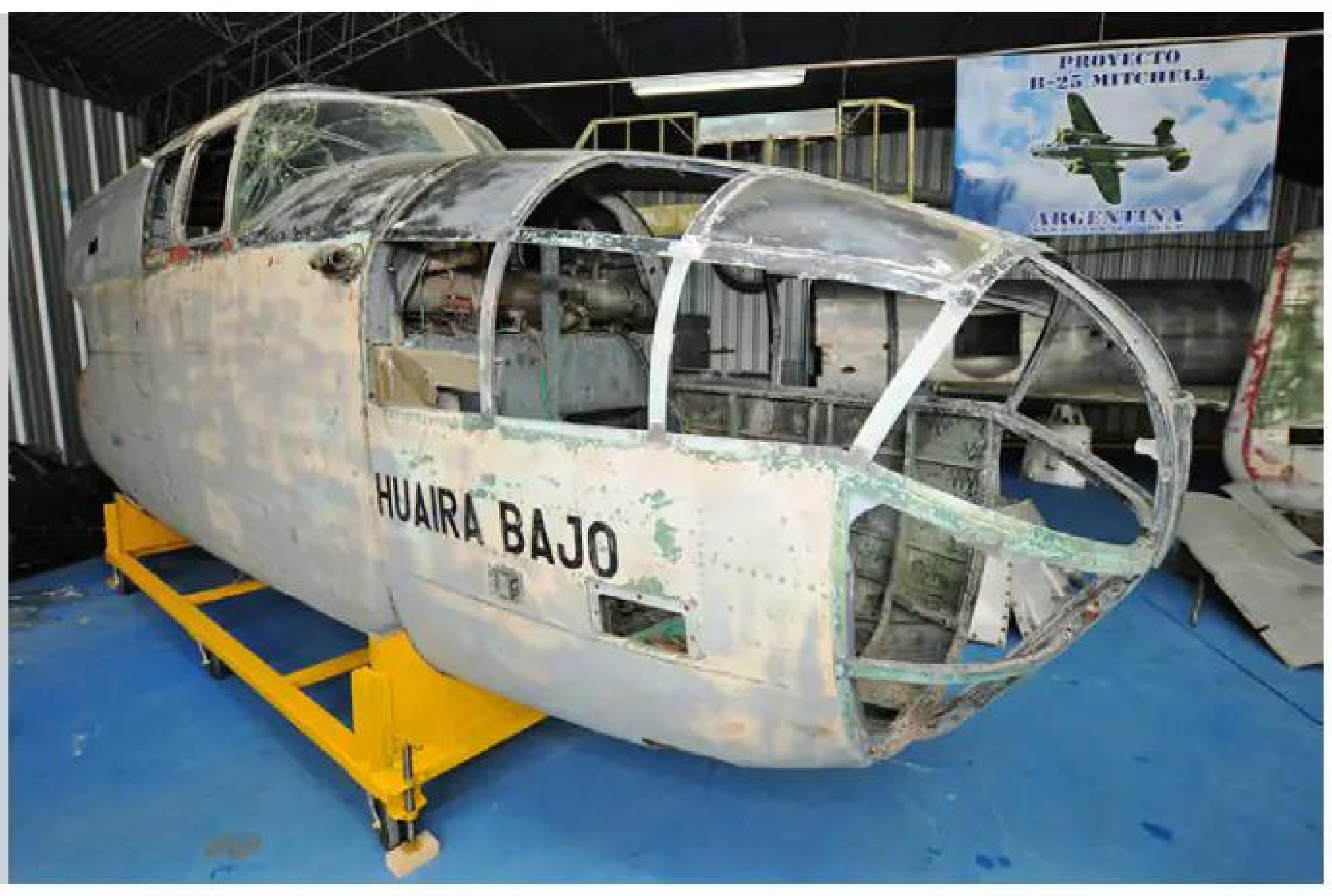
The Mitchell after being abandoned.

ARGENTINE MITCHELL

During the 1960s, several surplus Mitchells were flown to Argentina and, after some nefarious employment, they were basically abandoned. One of those aircraft has been subject of a long restoration and is now “almost ready to go” according to an advertisement. The plane is for sale at $995,000. The aircraft is B-25J-30-NC USAAF 44-31193. Used at various Stateside training fields, it went through the Hayes conversion and was deemed excess to needs in December 1958 and flown to at Davis Monthan AFB. Purchased by Enrique Denwert during June 1961, it became LV-GXH and headed south. For one decade, the Mitchell was used as a smuggling aircraft in and out of Paraguay. On her last flight, the pilots ran the plane out of fuel and it landed in the province of Santiago del Estero and was confiscated. It was sold to an Argentinian small airline named *Empresa Provincial de Aviacion Civil de San Juan* and operated until 1976 when the plane had a “double engine failure,” which probably means it again ran out of fuel. Pushed to the side of the runway at Santiago del Estero, the B-25 sat for the next 35 years, being exposed to the weather and vandals. In 2011, the craft was obtained by *El Proyecto B-25 Mitchell* and has been under restoration with the name *Huaira Bajo*.



Trees growing up and around LV-GXH.



The nose of the recovered Mitchell at the start of the restoration process.

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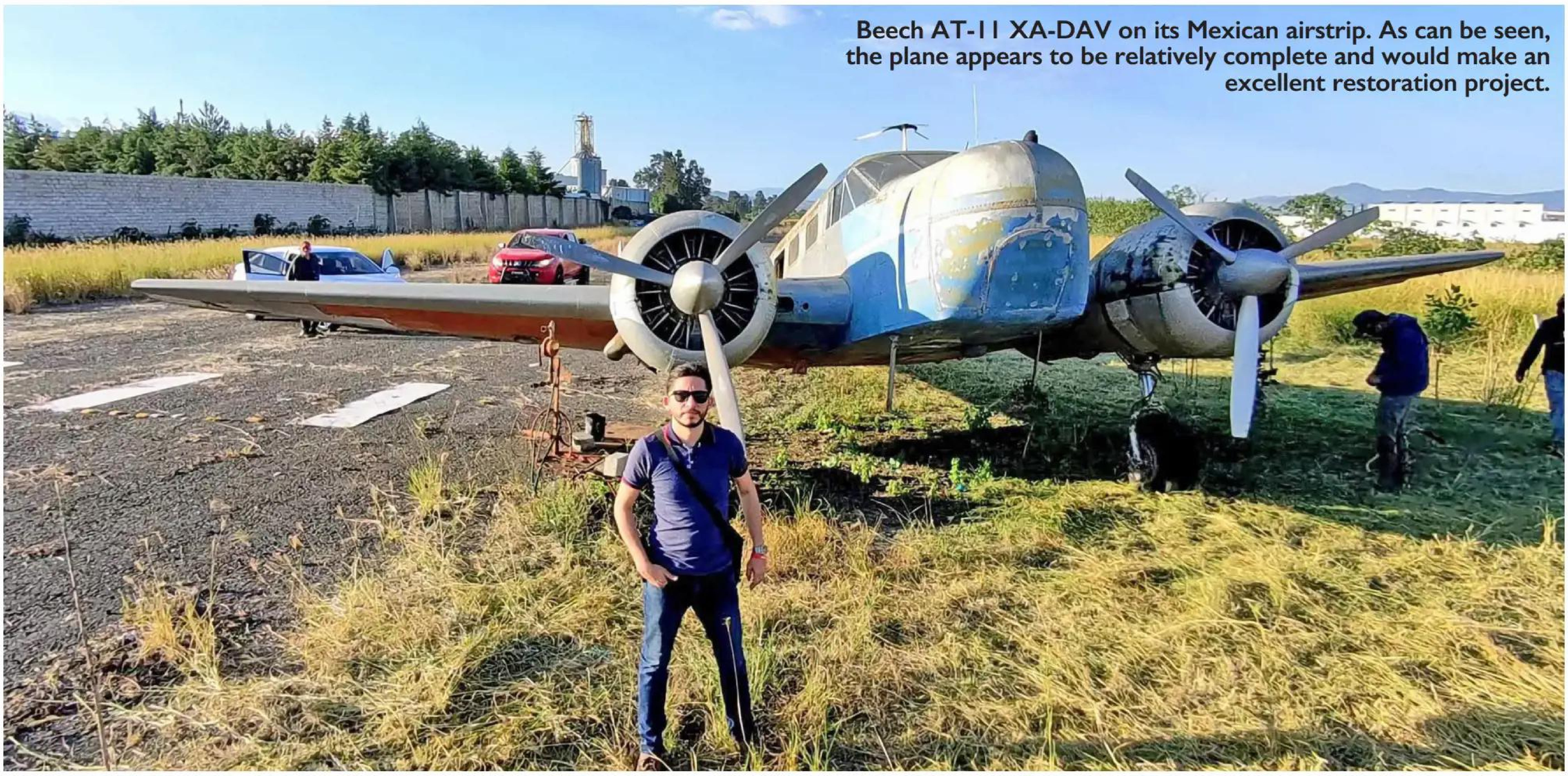
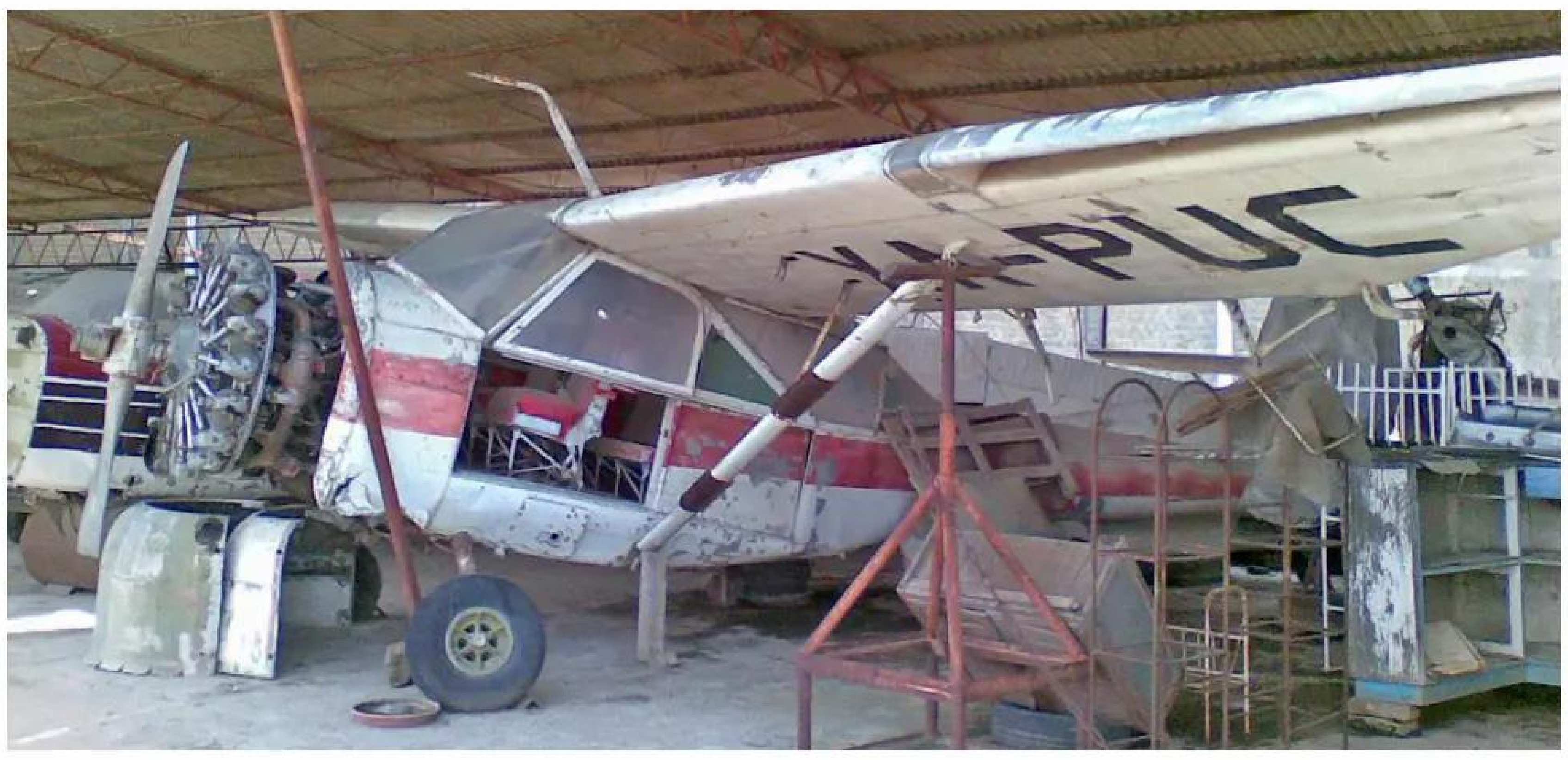


Beech AT-11 XA-DAV on its Mexican airstrip. As can be seen, the plane appears to be relatively complete and would make an excellent restoration project.

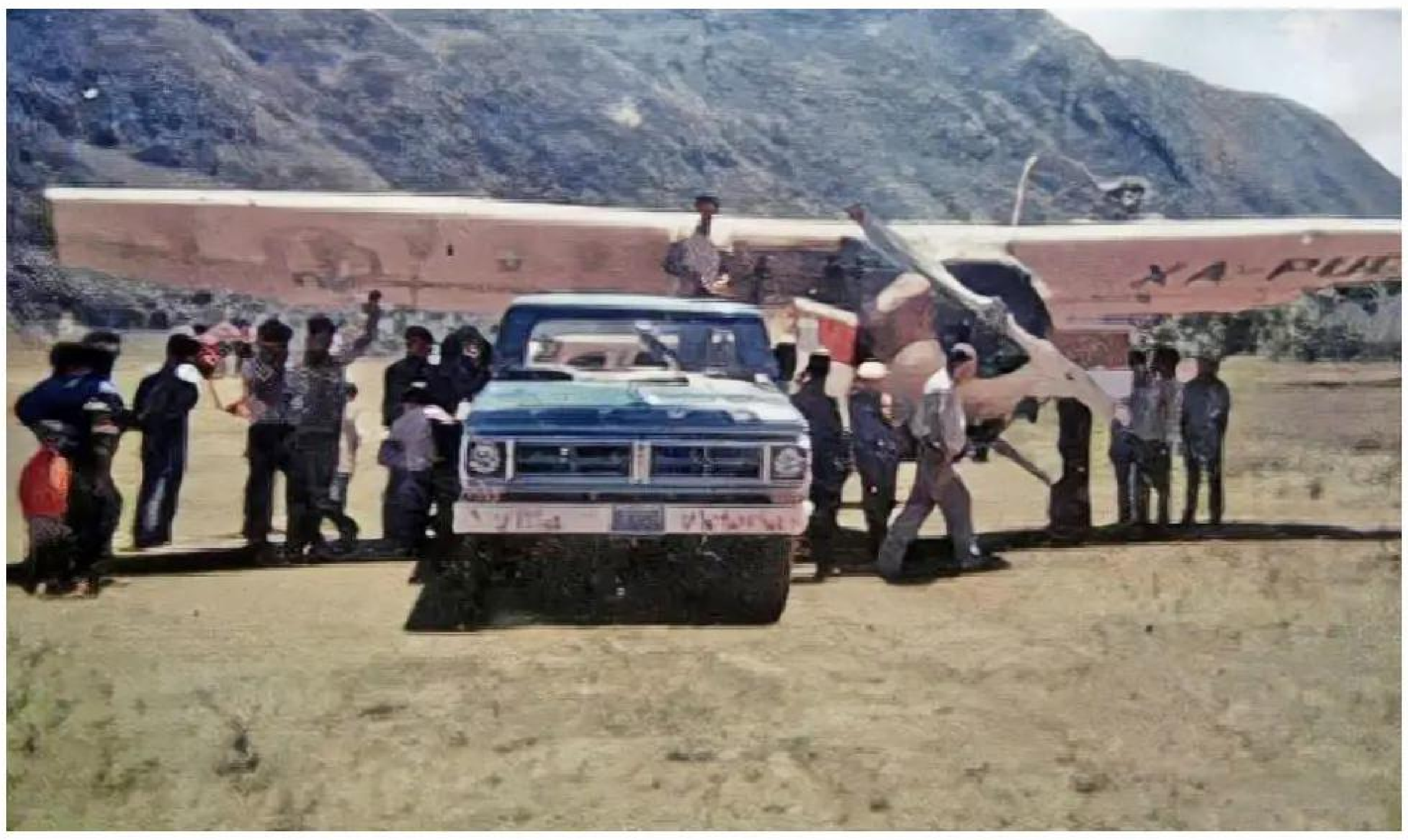
MEXICAN KANSAN AND MORE

Semi-abandoned Beech AT-11 Kansan XA-DAV is parked on a small airstrip in Ciudad Guzman in Jalisco, Mexico, along with an abandoned Britten-Norman Islander. The plane has been in the same family since 1955 and had been modified to carry passengers and cargo. The family also has the AT-11 bombardier glass nose in storage. Surplus AT-11s were often converted into C-45 look-alikes and a number of post-war companies carried out the conversions. A near-by shed also has several interesting aircraft including a Vultee L-13 and a Stearman. Mexico was a large user of surplus ex-military aircraft and we are sure than many more examples abound in that nation.

The modified AT-11 during its working days.



Located in a shed is this L-13, which carries the Mexican registration XA-PUC.



The L-13 was also modified as a passenger and cargo hauler.

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ITEM #4

CURTISS WRIGHT R-3350 MASTER ROD. A GREAT PART FROM THE ENGINE THAT POWERED MANY OF AMERICA'S FAMED AIRLINERS AND COMBAT AIRCRAFT. WEIGHT 18-LBS. SIZE 20-IN BY 9-IN BY 3-IN. CHROME **JUST $275**, ORIGINAL **JUST $225**

ITEM #5

PRATT & WHITNEY R-985 MASTER ROD. ONE OF HISTORY'S MOST FAMOUS ENGINES THAT POWERED THE TWIN BEECH, STAGGERWING, GOOSE, AND TOO MANY OTHERS TO NAME. WEIGHT 10-LBS. SIZE 16-IN BY 7-IN BY 4-IN. CHROME **JUST $195**, STOCK **JUST $150**

ITEM #6

PRATT & WHITNEY R-1830 TWIN WASP WWII PISTON. FITTED TO THE DC-3/C-47, B-24, PBY, TBD, P-43, AND TOO MANY OTHERS TO LIST. WEIGHT 5-LBS. 5.5-IN DIA BY 4-IN HEIGHT. CHROME **JUST $45**, BLASTED **$35**

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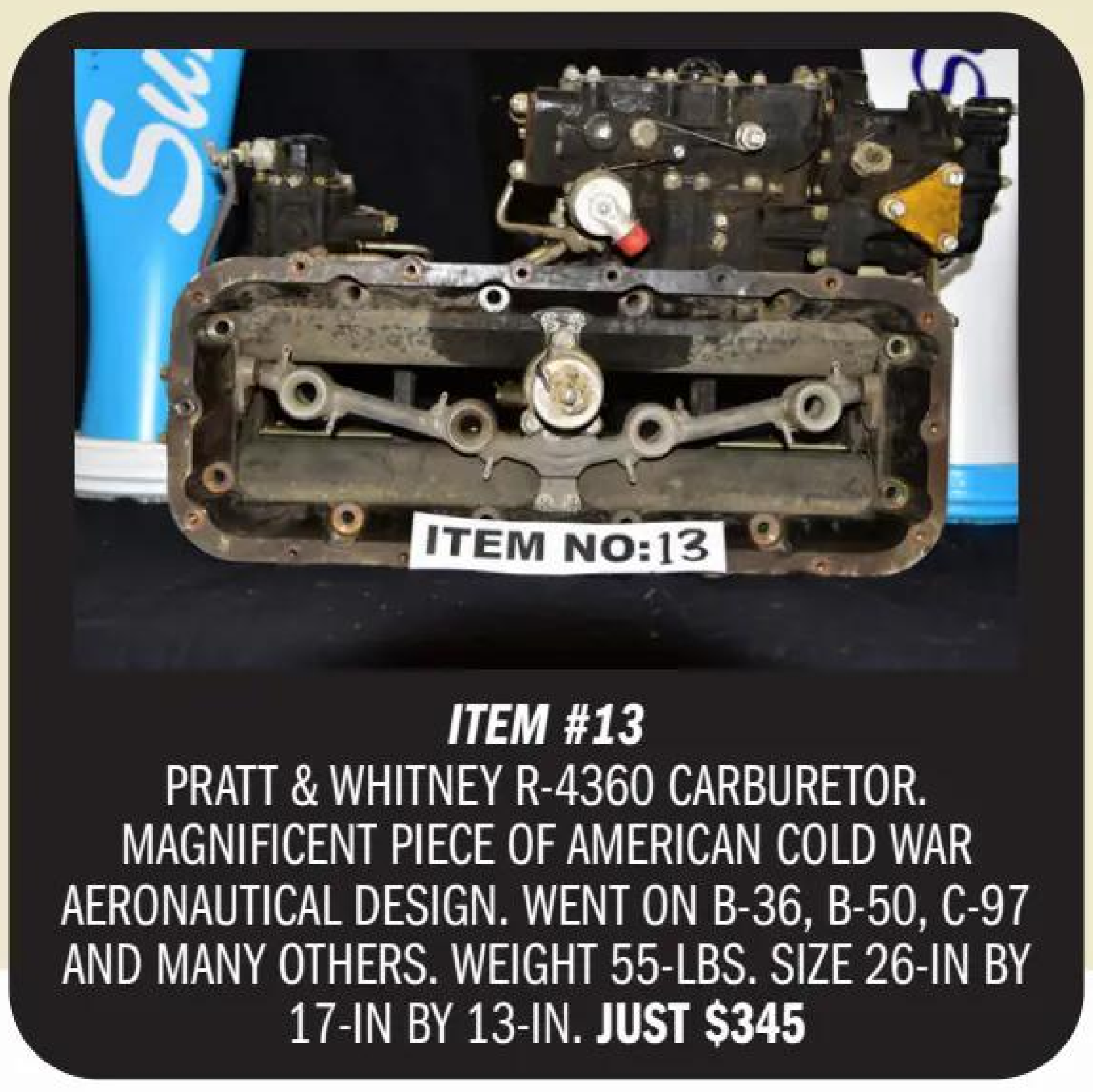
ITEM #11

HAMILTON-STANDARD WWII 2D30 30-SPLINE TWO-BLADE PROP SPIDER. WEIGHT 27-LBS. SIZE 21-IN BY 9-IN BY 9-IN. **JUST $325**

ITEM #12

HAMILTON-STANDARD 2D30 TWO-PIECE HUB. WEIGHT 32-LIBS. SIZE 12-IN BY 12-IN BY 12-IN. THESE WERE FITTED TO R-985S AND WENT ON THE FAMED BEECH MODEL 18, STAGGERWING, GEE BEE MODEL Z, SEVERSKY BT-8, AND MANY, MANY OTHERS. **JUST $325**



ITEM #13

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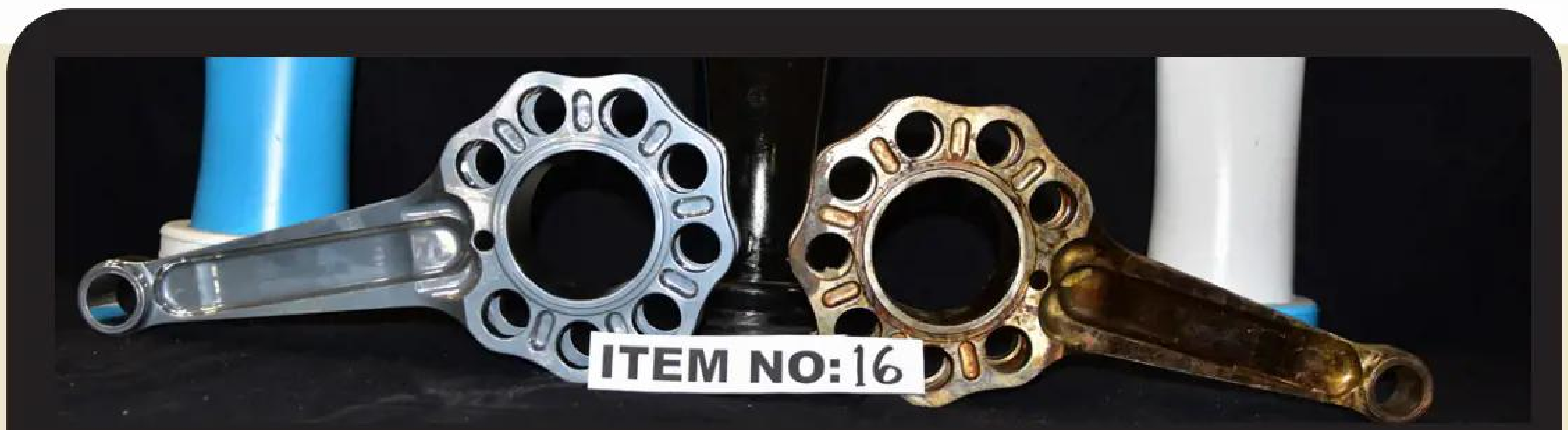
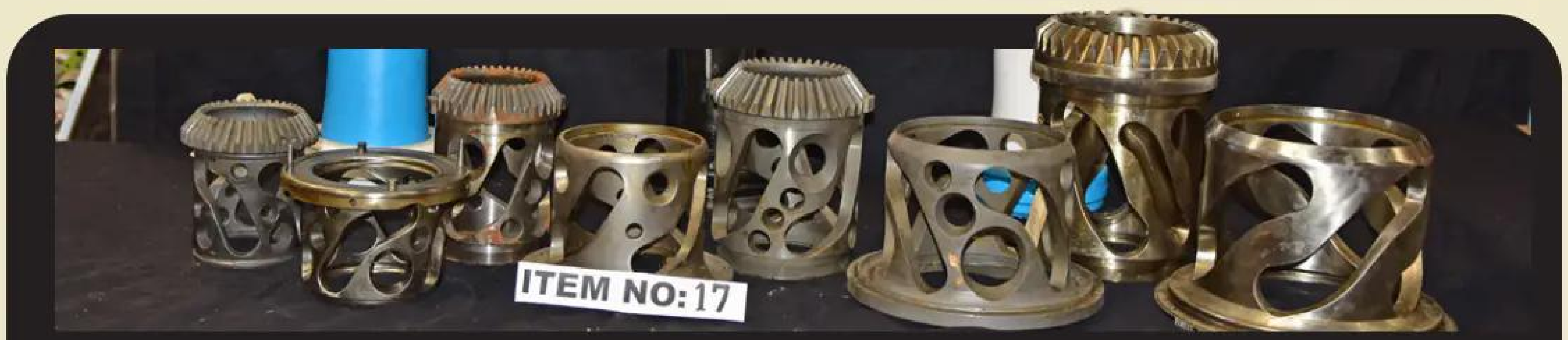


ITEM #16

PRATT & WHITNEY R-2800 MASTER ROD. WEIGHT 18-LBS. SIZE 18-IN HIGH BY 8-IN WIDE. FOR CORSAIR, B-26, HELLCAT, AND MORE. CHROME **JUST $325**, ORIGINAL **JUST $295**



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	ITEM #10	$350	
	ITEM #11	$325	
	ITEM #12	$325	
	ITEM #13	$345	
	ITEM #14	$695	
	ITEM #15	$595	
	ITEM #16	$325/$295	
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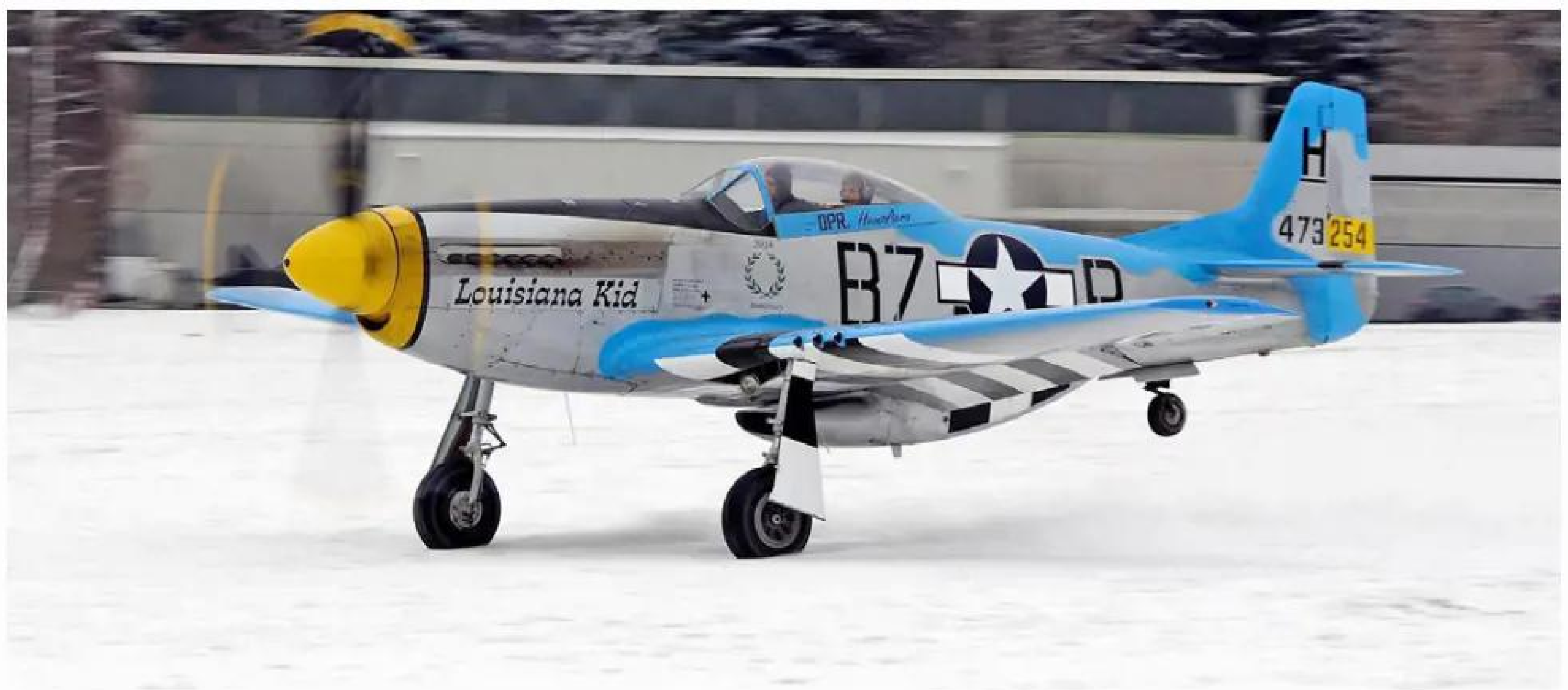
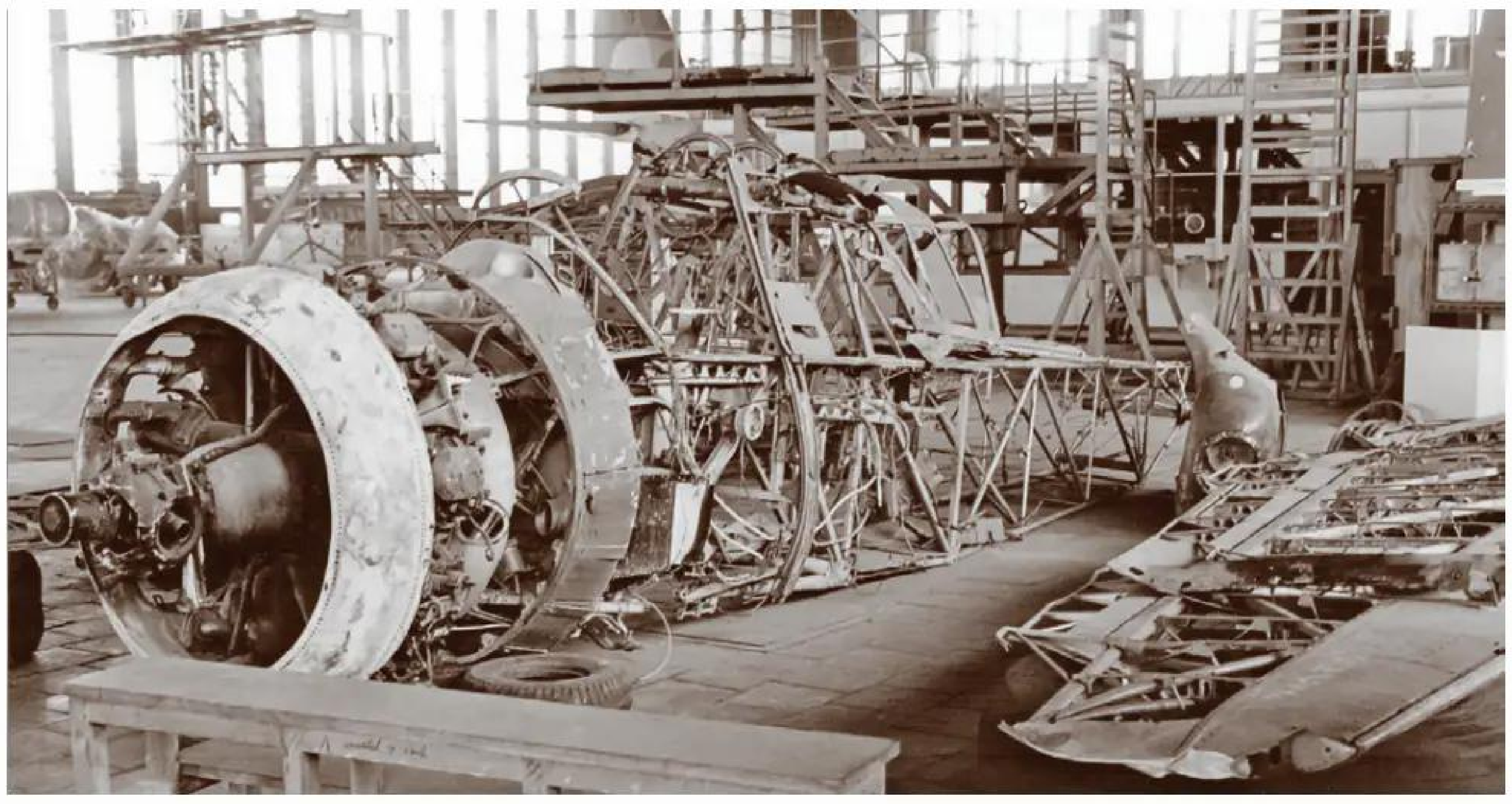
Mustang *Louisiana Kid* blasts down the snow-covered German runway.



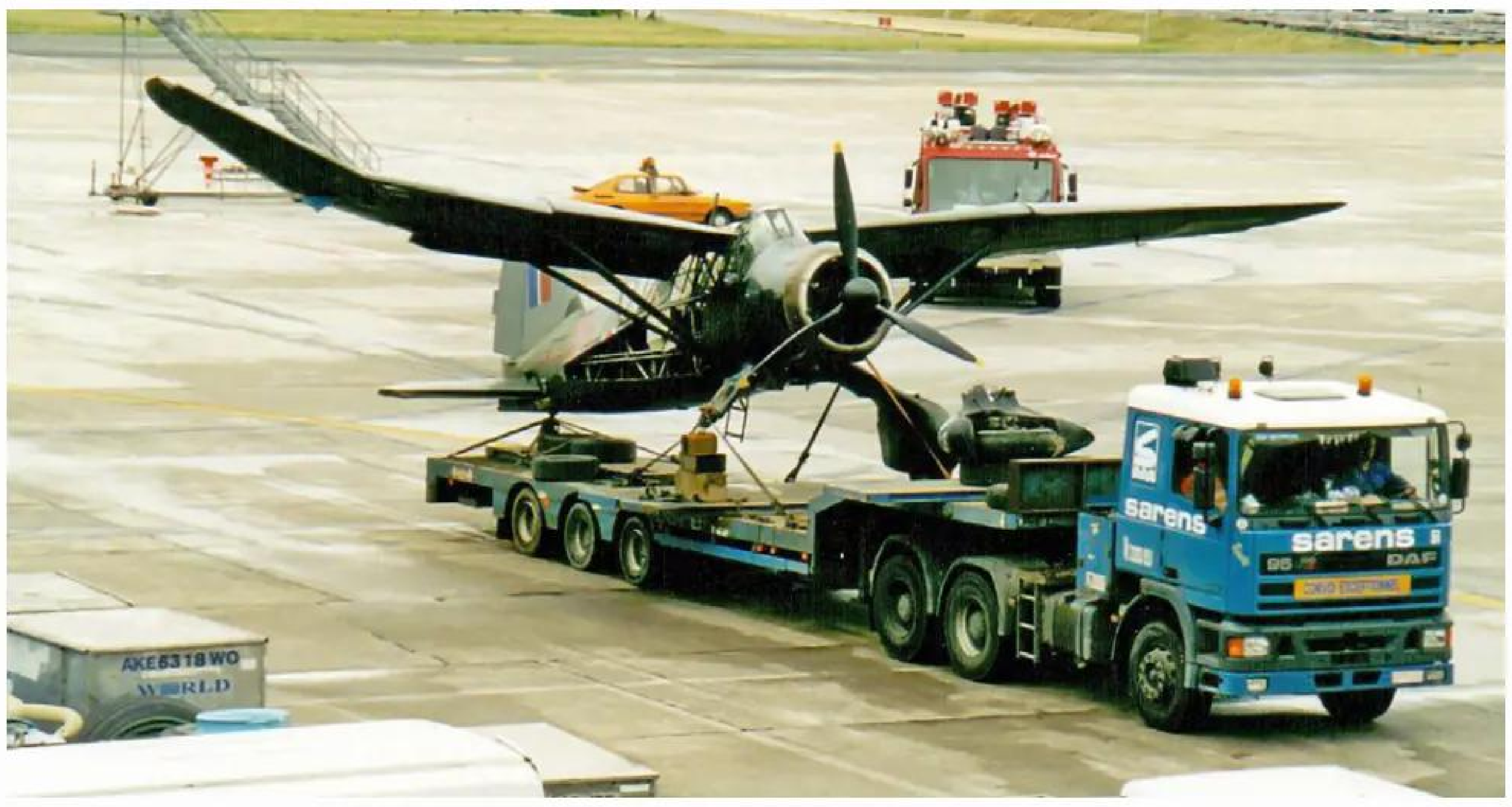
We hope the pilot knows where the runway markers are located.

SKIING WITH A MUSTANG

Every Christmas, the owner of P-51D-25-NA USAAF 44-73254 takes his Mustang “skiing” from its base at Albstadt-Degerfeild. The aircraft flew with the Royal Canadian Air Force as RCAF 9571 before being sold surplus as N6328T and followed the same route as most other surplus RCAF Mustangs when it was purchased by Intercontinental Airways to become part of a projected mercenary air force. After that enterprise was put to bed by the US government, the Mustang did not last long. On 31 May 1963 it was destroyed in a crash near Crumstown, Indiana. From that point, the aircraft disappeared until its paperwork surfaced in 1972 on another Mustang airframe. In 1974, it became the property of Don Weber who owned several other Warbird-type aircraft and was listed as “under restoration.” It apparently made a first post-restoration flight in 1978 with the name *Buster*. Never a well-photographed Mustang, in 2012 the aircraft was purchased by Wilhelm Heinz, disassembled, and shipped to Germany from where it made its first flight on 1 May 2013. This is certainly an interesting way to spend Christmas!



The hulk of the Lysander after arriving at the workshop of Sabena Old Timers.

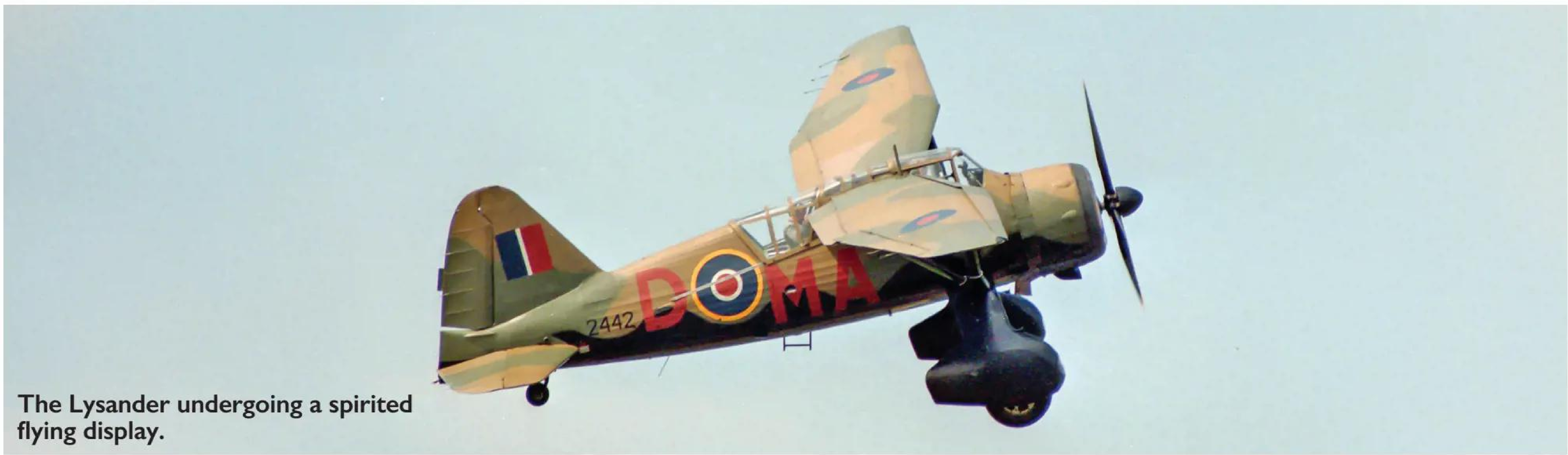


Distinctly bent, the aircraft is seen being transported after its accident on 17 July 2001.

LYSANDER FOR THE FIGHTER COLLECTION

At historic Duxford Airfield, the aircraft of The Fighter Collection are always in constant motion. The newest acquisition by TFC is Westland Lysander Mk. IIIA that was built with the serial V9546 and was placed on the UK civil register as G-LYZY on 9 December 2024. The aircraft has an interesting history. Built by Westland in Yeovil, the plane was supplied to the Royal Canadian Air Force in 1942 and was utilized as a target tug with the modified designation TT Mk. IIIA. Dumped surplus after the war, the Lysander was one of hundreds of surplus aircraft offered for $50. There were few takers except for famers who reasoned parts off the planes could be utilized around their farms. During the 1960s and 1970s, Wes Agnew began scouring farms and discovered V9456 in relatively intact condition. He then sold it to the *Musee Royal de l’Armee* in Brussels during 1971. During 1982, the aircraft was sold on to the Sabena Old Timers Foundation. This group of enthusiast workers got busy on the aircraft and it flew again on 27 August 1988 after components from several other Lysanders had been acquired in Canada and utilized in the airframe. The aircraft was given the Belgium civil registration OO-SOT and finished in the markings of the RAF’s No. 161 Squadron. It made a forced landing near Florennes, Belgium, in 1988 and was damaged. However, it was then heavily damaged in a ground-loop while landing at Brussels Zaventem Airport during July 2001.

With this accident, a second airframe was obtained from Canada to aid in the rebuild. Again a lengthy process, the Lysander was ready for ground runs and the first of these took place on 13 September 2008. In the meantime, Sabena Airlines had gone bankrupt and this put a number of restrictions on the organization. There was talk that the Lysander might be seized as an asset in the bankruptcy and then came the problem of the volunteer group aging out. Numerous other problems, including engine issues, meant that the Lysander was not flown. It then went into long-term storage until being purchased by TFC. Currently, two Lysanders remain airworthy in the UK and they are V9552/G-AZWT with the Shuttleworth Collection and V9312/G-CCOM with the Aircraft Restoration Company. In Canada, Lysander C-FVZZ is airworthy.



The Lysander undergoing a spirited flying display.

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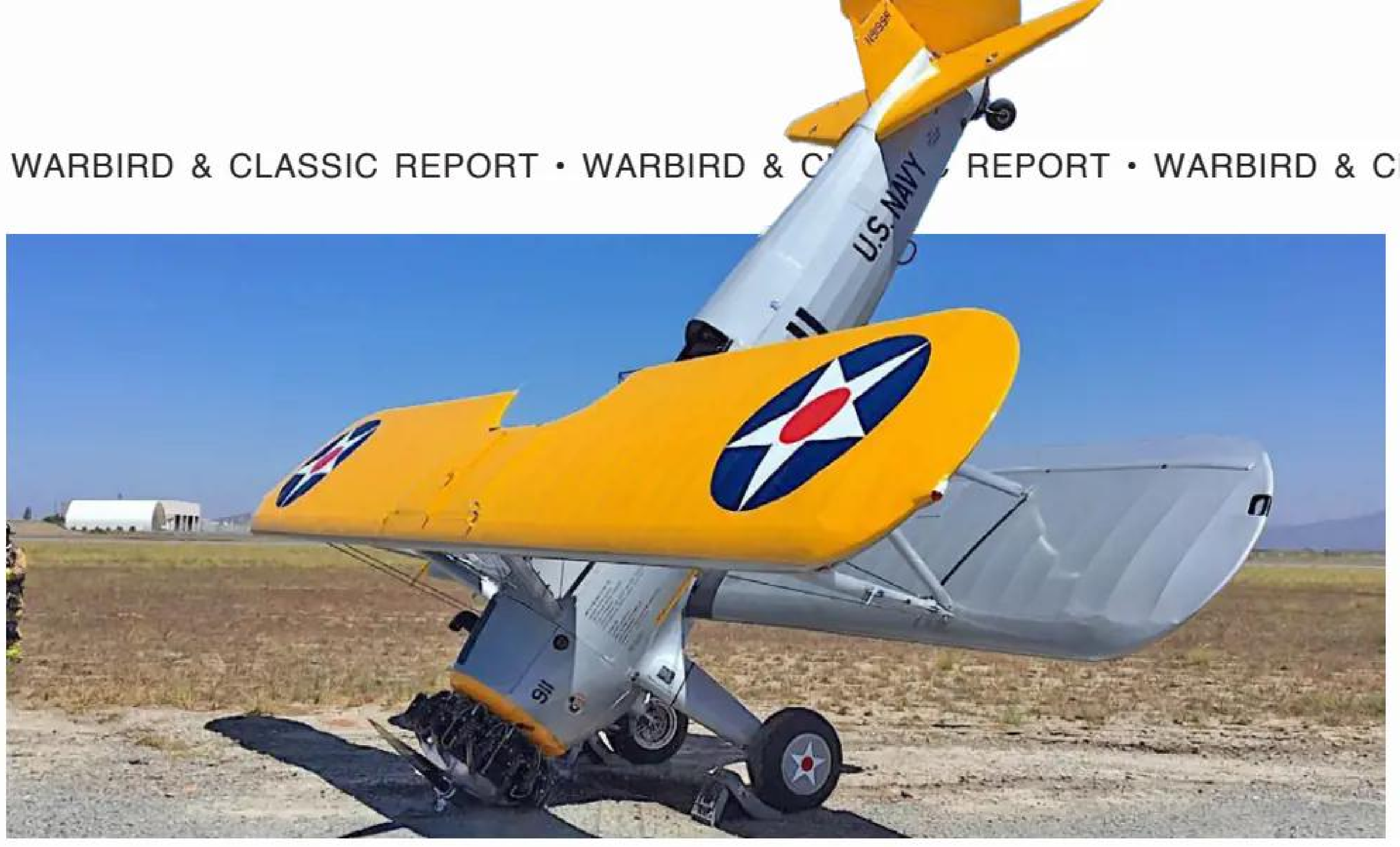
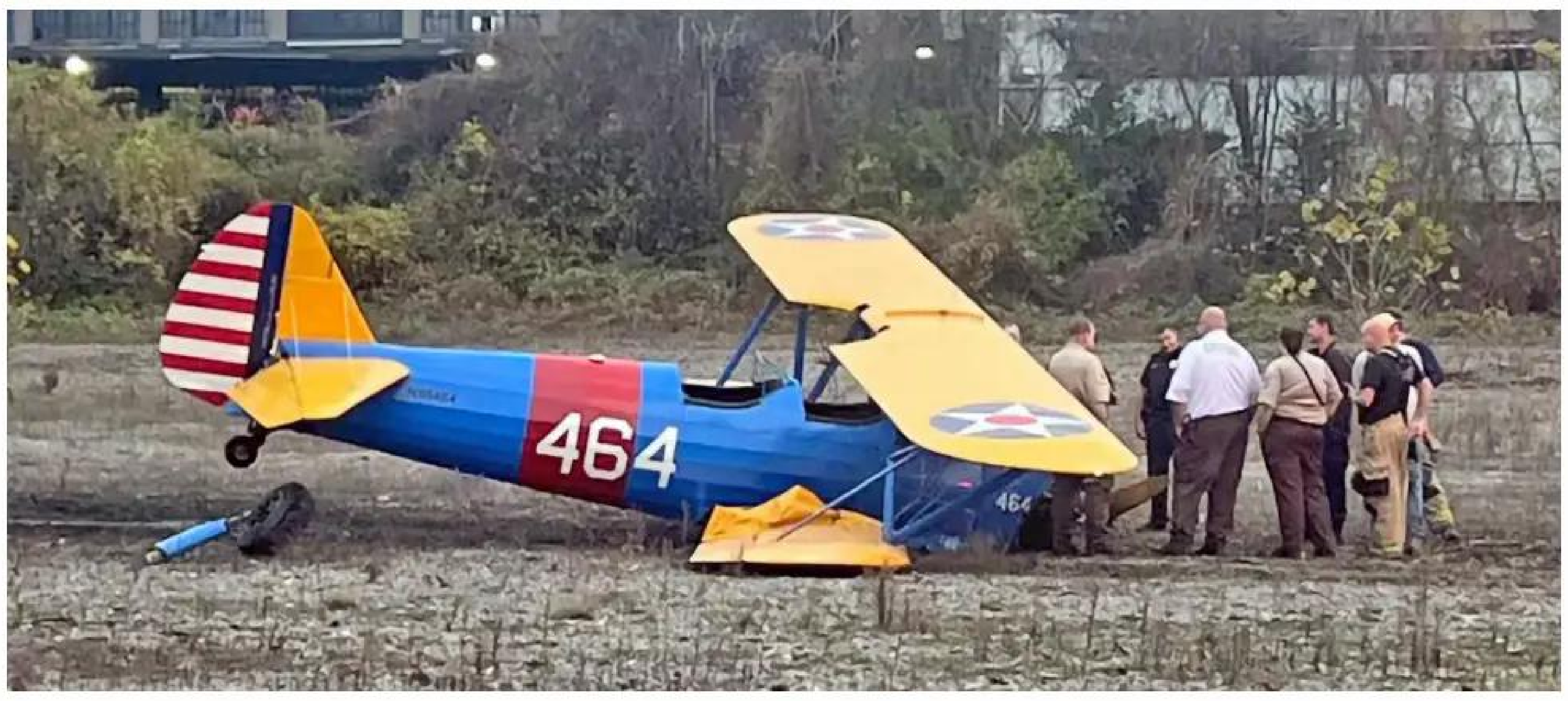


Kaydet N9199R after its 13 August 2019 incident.

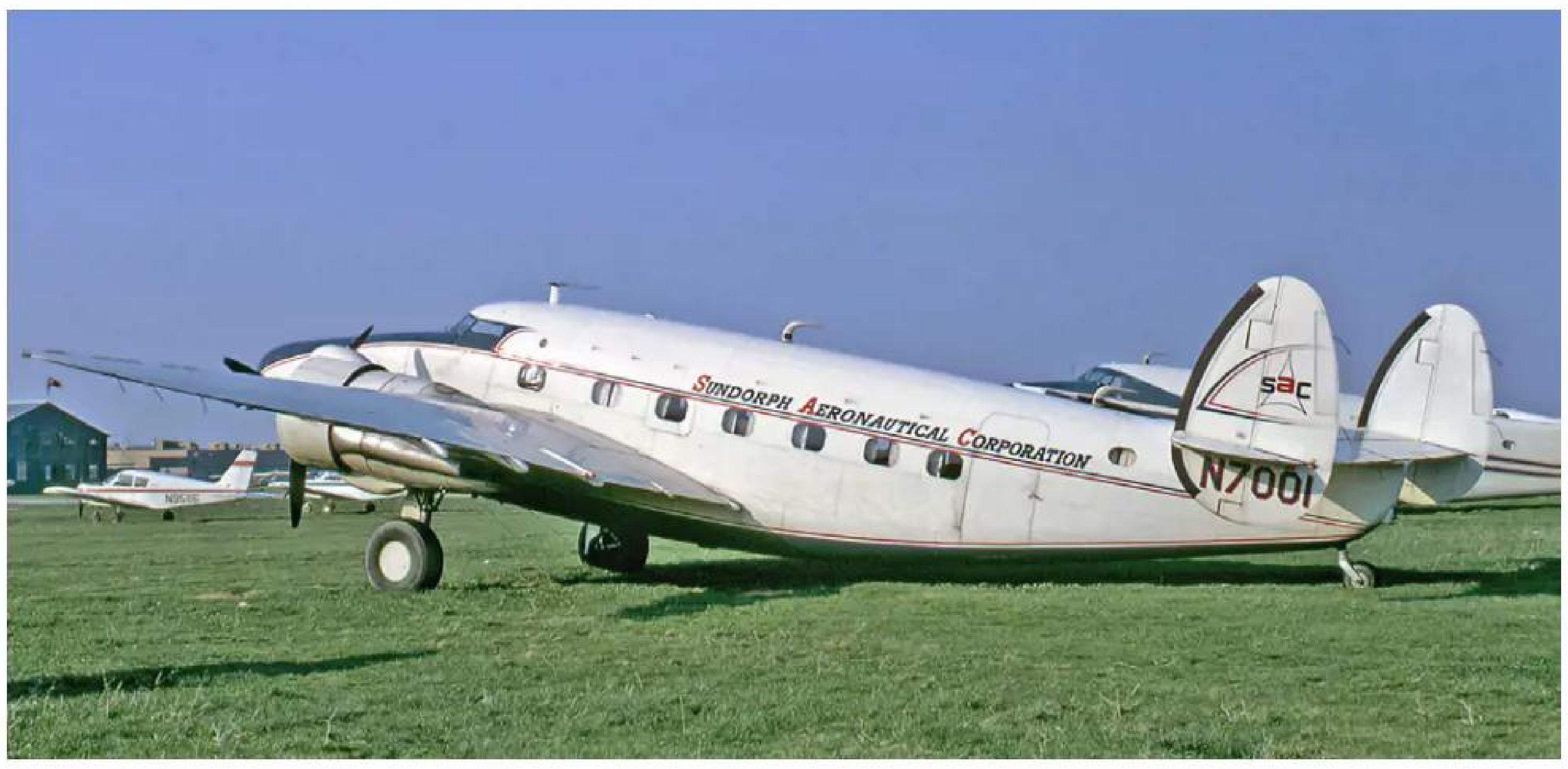


Kaydet N55464 after its forced landing.

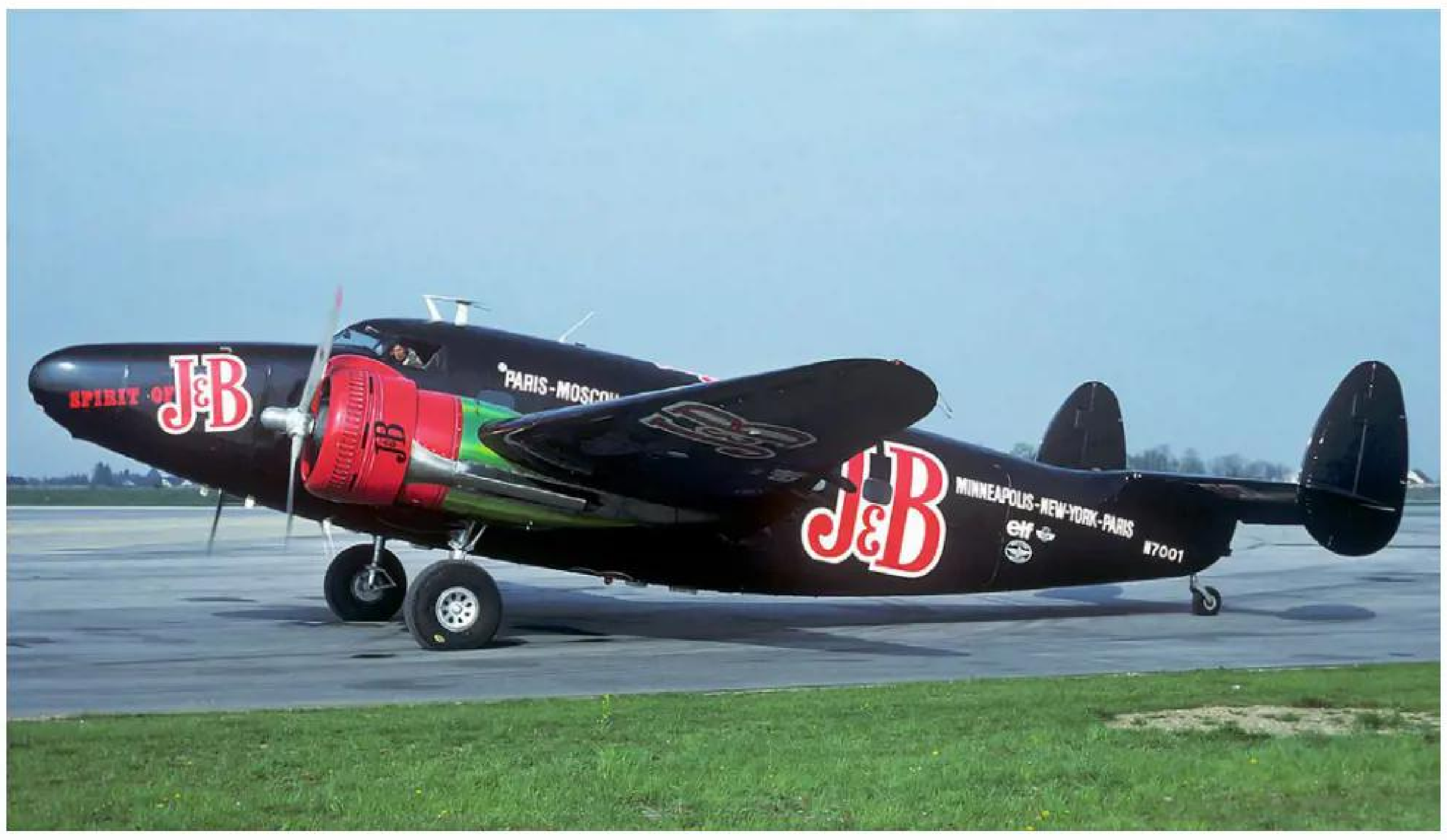
MORE KAYDET PRANGS

On 8 December 2024, Stearman PT-17 N9199R was landing on Runway 27R at Gillespie Field, El Cajon, California, when the pilot lost control and went off the runway. The aircraft received substantial damage but both occupants escaped without injury. Built as USAAF 41-8653, it appears that this aircraft was transferred to the *Fuerza Aerea Colombiana* but was returned to the USA in 1957 as N9199R and converted to a crop duster, operated by the Paul Foshee Dusting Company of Louisiana. On 10 August 1972, the plane hit another aircraft on the ground but there was minor damage. However, on 13 September of the same year, the aircraft was operating from a poorly maintained strip at Evelyn, Louisiana, while dusting and a wheel struck a hidden rut and it ground looped and nosed over. Repaired, it was returned back to stock condition and went through several owners. On 13 August 2019, it landed with the brakes locked at nosed-over at Brown Field near San Diego.

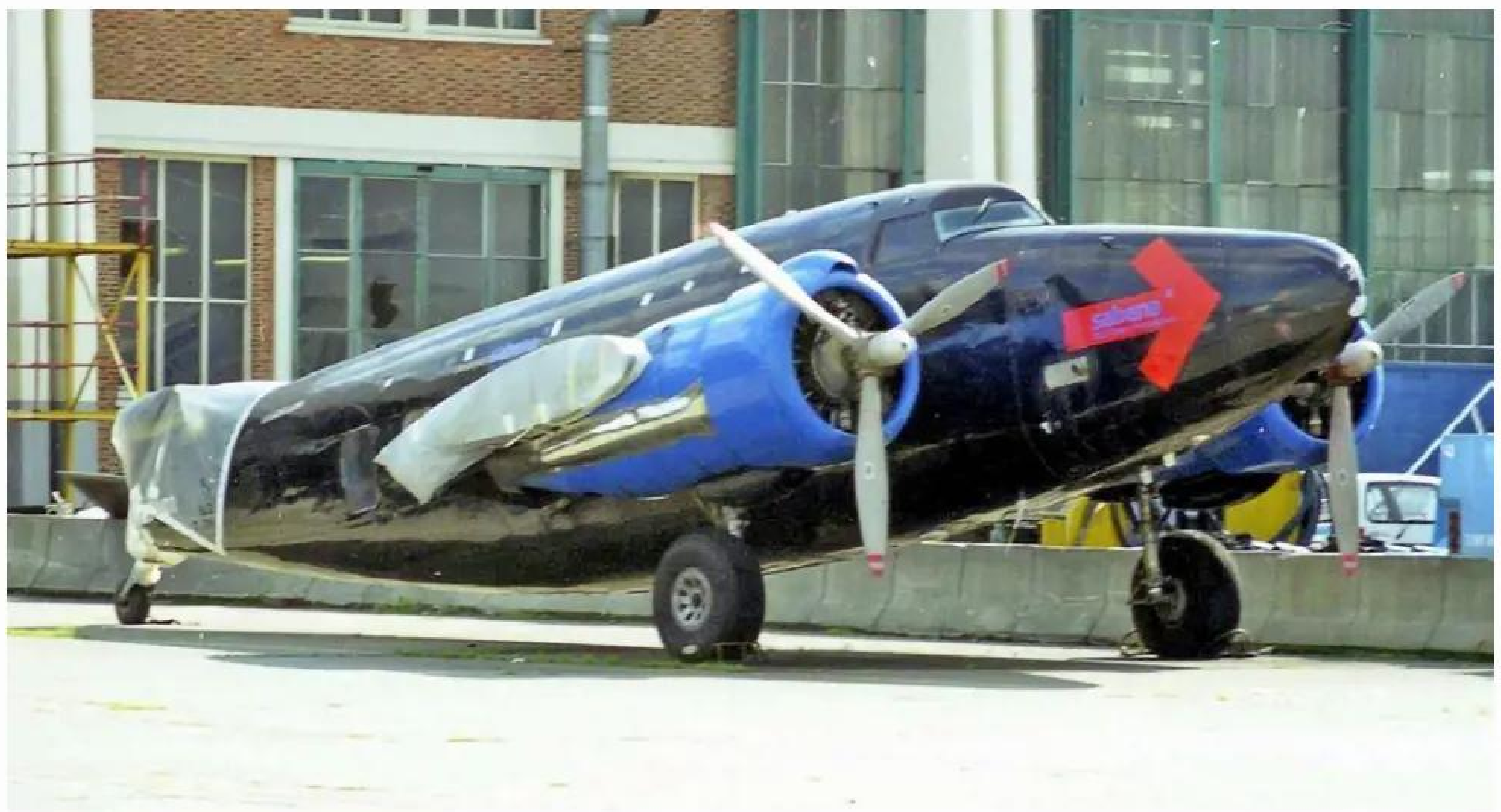
On 18 November 2024, PT-13B N55464 had taken off from Robert Newton Field Airport in West Virginia. About eight miles from the airport, the pilot reported that the “engine stopped.“ Unable to restart the powerplant, he made a forced landing in a railyard and the aircraft received substantial damage but the pilot was not injured.



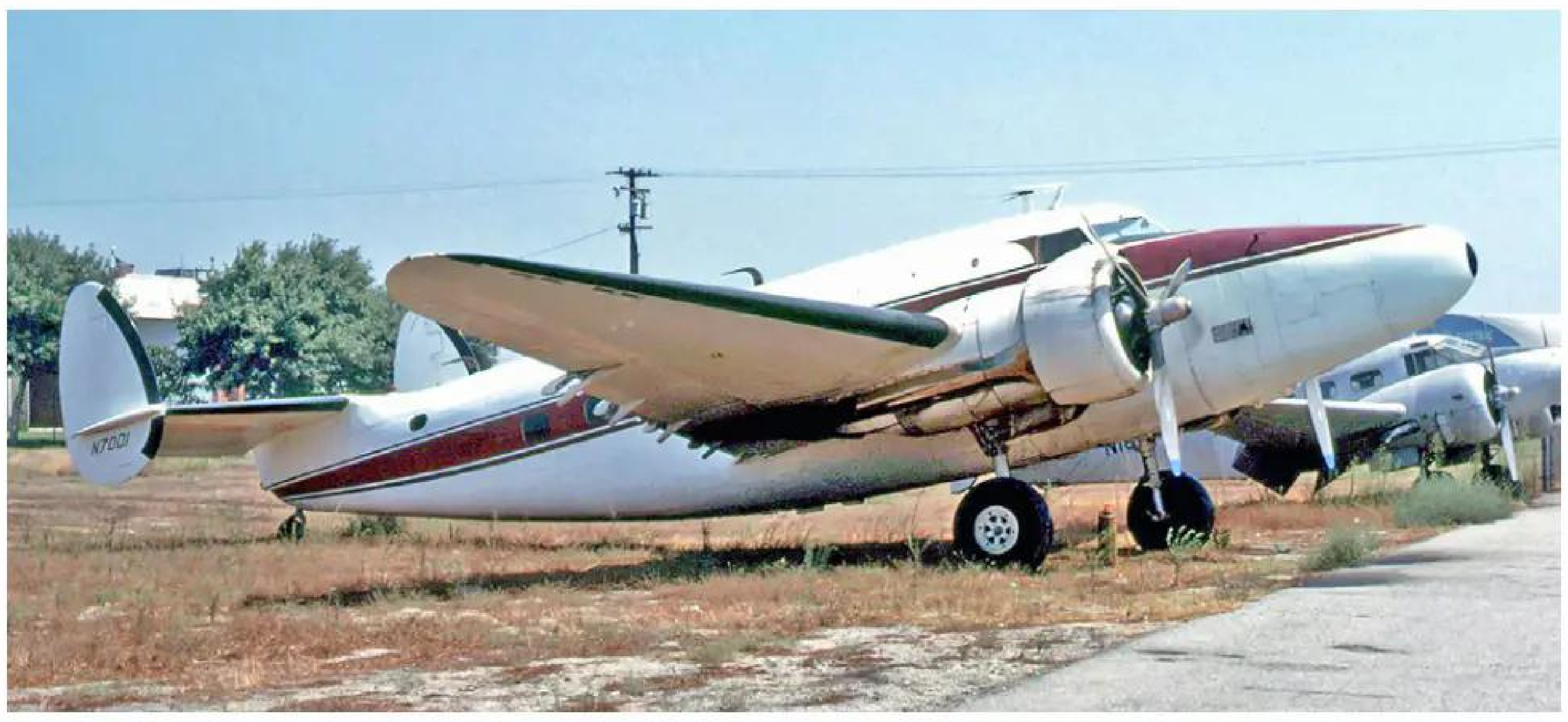
Lodestar N7001 when being operated by Sundorph Aeronautical Corporation at Cleveland’s Hopkins Airport during April 1970.



N7001 painted for its record-breaking flight.



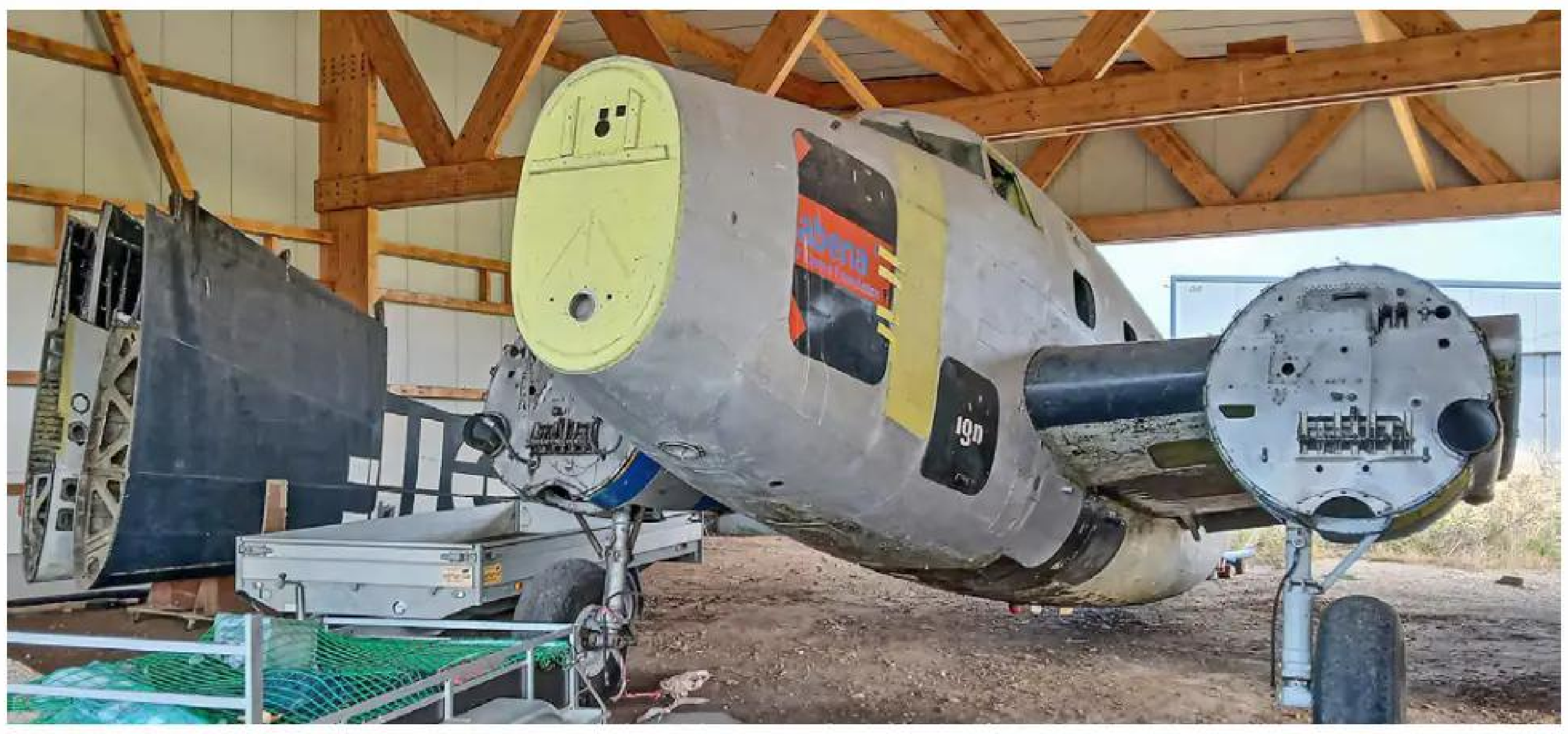
Seen in August 1999, the plane had been disassembled and lost its record markings. Photographed at Meisbroek Air Base, Belgium.



N7001 at Ontario, California, during September 1979. During this time period, the majority of airworthy Lodestars were being purchased for drug running.

SABENA LODESTAR

With the fate of the Sabena Old Timers Lysander, we have to wonder about the Lockheed Lodestar project that the group had taken on. As we know, Lodestars have definitely become rare birds. The aircraft arrived at St. Ghislain Aerodrome in Belgium on 6 January 2023. As can be seen, little work has been done and with the legal troubles defining what is or isn’t a legal asset to the bankrupt Sabena Airlines, we do not know the future fate of the plane. Unfortunately, the Lodestar has limited value in the mind of the current Warbird market so it would take a volunteer group like the Old Timers to get it back into the air. The aircraft was built as Lodestar 18-56 c/n 2427 and last carried the registration N7001. It was used in a crazed attempt to break the Howard Hughes around-the-world record established in July 1938. Taking off during the Paris Airshow on 17 June 1987, the crew arrived back at Le Bourget on the last day of the show — 21 June. They had broken the record by 2-hrs 29-mins with a total time of 88-hrs 48-mins. The flight was sponsored by Justerini & Brooks (J&B) Whiskey.



N7001 after arriving for restoration by the Sabena Old Timers.

(continued on page 74)

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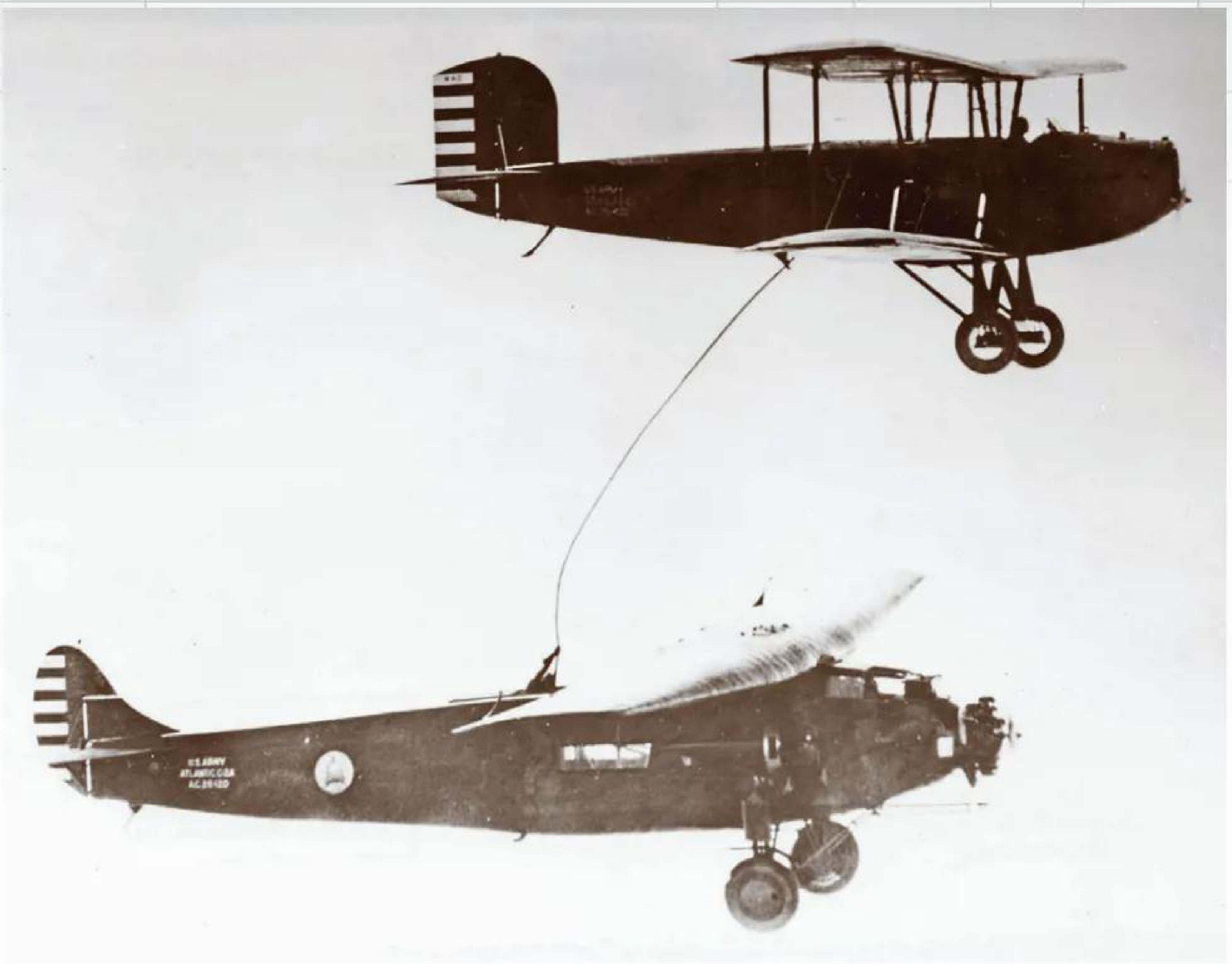
LOG ENTRIES
BY MARK BINGHAM

THEY'RE GOING THE DISTANCE

REMARKABLE ENDURANCE FLIGHTS PUSHED THE ABILITIES OF AIRCRAFT AND PILOTS

During the 1920s, the military had to come up with ingenious stunts to show the relevance of aviation to the general public in order to obtain governmental support for advances in technology. By the 1950s, the general public embraced stunts in order to obtain notoriety. Beginning with the Great Depression, dance marathons, pole-sittings and unusual tests of endurance became common occurrences. One particular test of endurance in 1959 still stands the test of time and remains unbroken.

In early January of 1929, then Major Carl A. Spaatz, Second Lt. Elwood R. Quesada, and Captain Ira C. Eaker of the United States Army Air Corps conducted one such stunt to prove that aerial refueling of an airplane could be conducted. The airplane was aptly named *Question Mark* and was a modified Fokker C-2A tri-motor transport. A large question mark (?) symbol was painted on each side of the fuselage.



No one said it would be easy. A crewman in the lumbering Atlantic Fokker C-2A tri-motor (Fokker, to most Americans, still had a very bad connotation because of the Dutchman's support of the Germans during the Great War so the Atlantic name was tacked on to blunt the connection) attempts to grab the refueling hose from the equally lumbering Douglas biplane.

The Fokker C-2A had an internal fuel capacity of 192-gallons in its two wing tanks, and two 150-gallon tanks were installed in the cargo cabin. A hatch was cut in the roof of the cabin behind the wing for transfer of fuel through a hose from the tanker aircraft that would transfer 100-gallons of fuel over a period of 90 seconds. A 45-gallon tank was installed to provide engine oil to the three Wright R-790 radials. Five-gallon cans of oil were lowered on a sling from the tanker aircraft to replenish the engine oil.

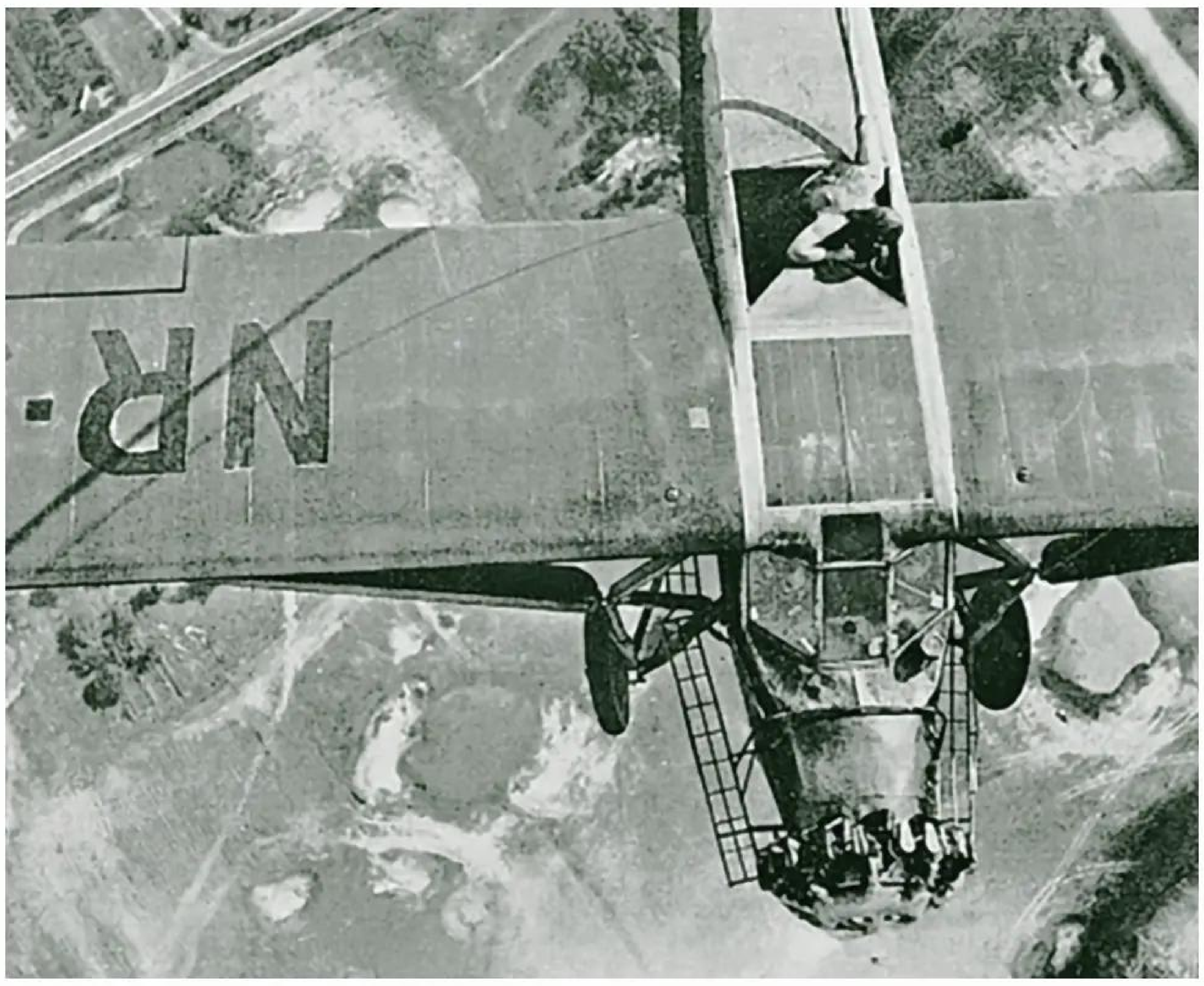
Two Douglas C-1 single-engine biplanes were modified to serve as the tanker aircraft. Two 150-gallon tanks were installed in their cargo compartments. A 50-foot weighted fire hose with a diameter of 2.5-inches and a quick-close valve served as the fuel transfer hose.

There were no radios in the *Question Mark*. All communications between the aircraft or with ground personnel were accomplished using flags, flares, flashlights, weighted notes tied to supply lines, or on chalk boards. Perhaps the most unusual method of communication was the use of Air Corps fighters that had chalk messages scrawled on the sides of their fuselages. The flight was conducted out of Metropolitan Airport in Van Nuys, California, and the stunt was conducted, in part, over the Rose Bowl and Rose Parade. The five-man crew of the *Question Mark* passed time by sleeping in bunks mounted over the fuel tanks, playing cards, reading,

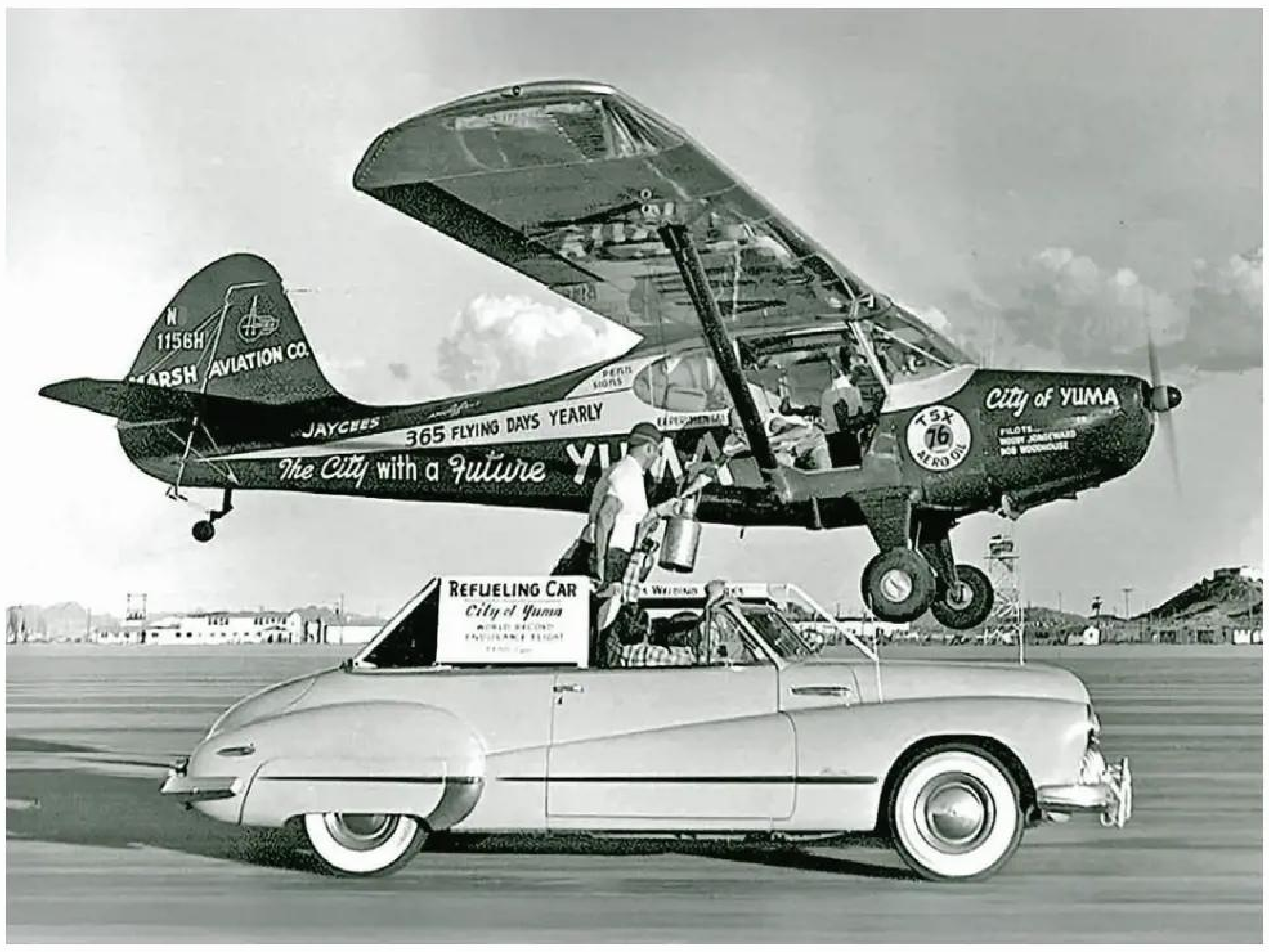
Question Mark's **flight took place from Metropolitan Airport in the San Fernando Valley — site of today's Van Nuys Airport. As can be seen, the crew was dressed for the cold-soak encountered during the flight.**

COMPLIMENTS OF CHICAGO EVENING AMERICAN

One of the Hunter brothers performs some engine maintenance on the Stinson's Wright radial during the record flight.



Hatch cut into the top of the *City of Chicago's* fuselage so the Hunters could reach up for the refueling hose.



This photo almost does not look real but it is. Aeronca Sedan *City of Yuma* in formation with a speeding Buick Super convertible. The Aeronca and the Buick are both restored and on display in the Yuma City Hall.

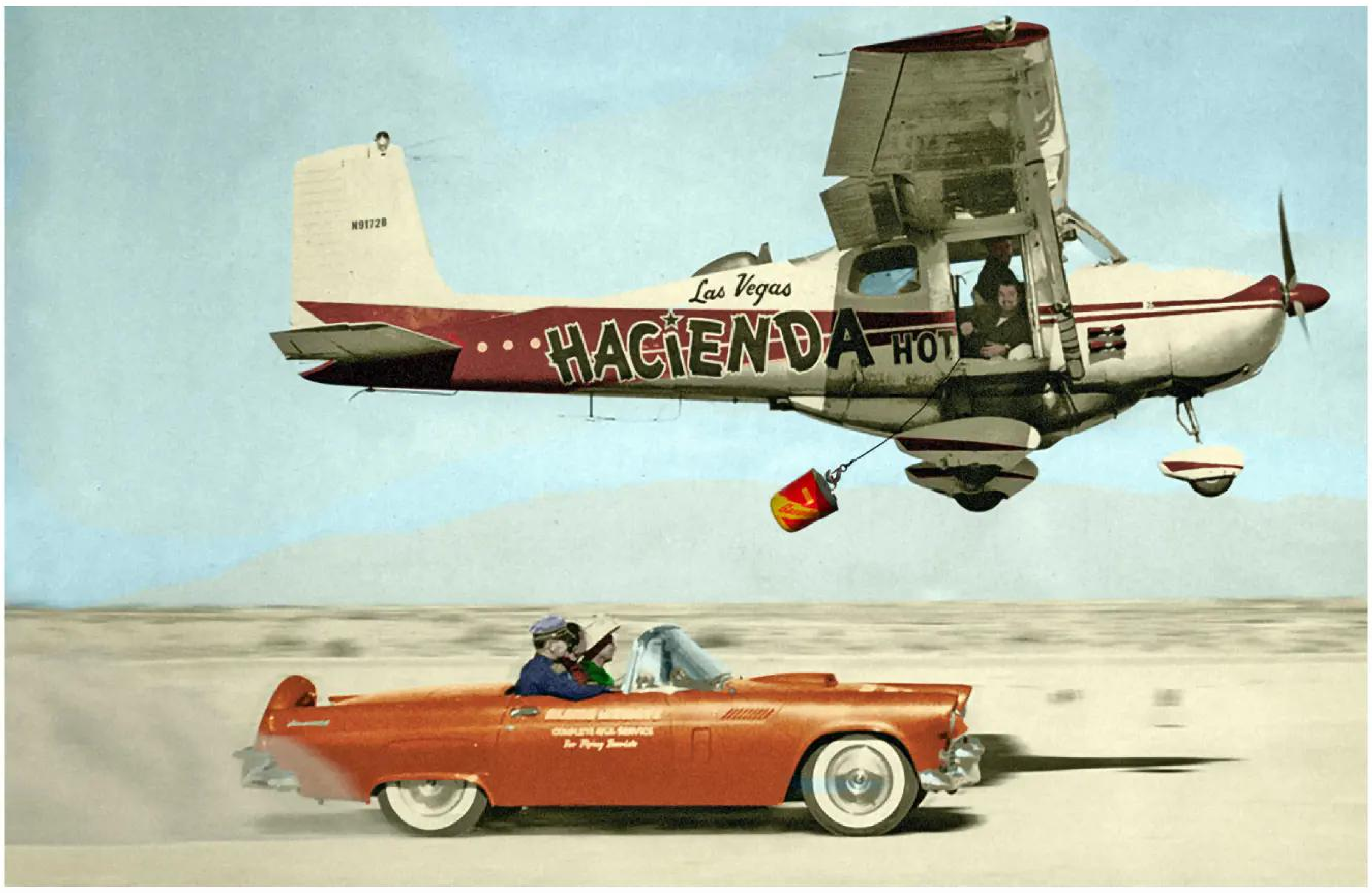
writing letters, and filling out flight logs.

The engines eventually became overstressed from the continuous operation and the cylinder compression cycles started missing. After the left engine quit, the decision was made to land after 150-hours, 40-minutes and 14-seconds of flight. Spaatz, Quesada, and Eaker would go on to significant roles in the US Army Air Force during WWII. Ultimately, Spaatz became a four-star general and the first Chief of Staff of the USAF, Quesada would become a lieutenant general over the Tactical Air Command, and Eaker would also become a lieutenant general and command the 8th Air Force and the Mediterranean Allied Air Force. Ironically, the *Question Mark* was destroyed when it ran out of fuel in flight on 3 November 1932.

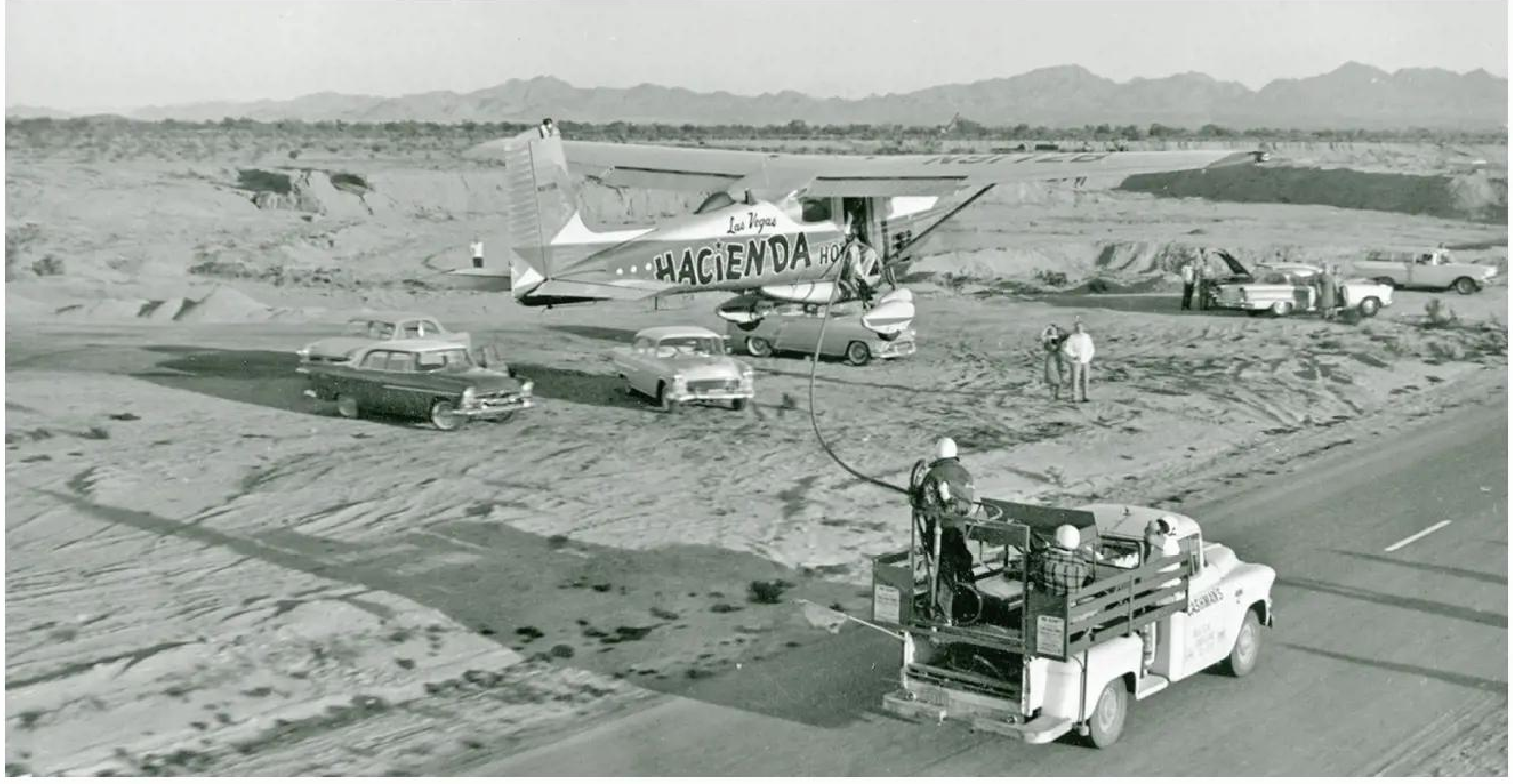
During the fall of 1929, the four Hunter brothers (Albert, John, Kenneth, and Walter) of Sparta, Illinois, made their first attempt to break the standing endurance record. The Hunter brothers were daredevil motorcycle riders who purchased their first airplane in 1923 in St. Louis. By the summer of 1924, they had acquired two more airplanes and were performing air stunts at county fairs all over Illinois and Indiana. John and Kenneth attempted to break the endurance record flying a Stinson SM-1 Detroiter airplane named *City of Chicago*, with fuel support from an additional aircraft using a rope and basket system. The two brothers were forced to land after 264-hours before breaking the record, as heavy fog prevented the refueling plane from making contact.

All four brothers were involved the following year in their recorded breaking flight of 553-hours, 41-minutes, and 30-seconds. John and Kenneth flew the *City of Chicago* over Sky Harbor Airport in Northbrook, Illinois, while Albert and Walter flew the fuel supply plane. To ensure the mechanical status and integrity of the Stinson Detroiter, the brothers had to perform regular mid-air mechanical checkups and inspections of the engine, fuel and oil levels, and general operational condition of the airplane. The *City of Chicago* finally landed at Sky Harbor Airport on 4 July 1930, in front of a cheering crowd of 75,000 spectators. The grit and determination of the Hunter brothers was remarkable, but their endurance record was soon broken by the Key Brothers of Meridian, Mississippi, in July of 1935 (the flight of the Key Brothers will be covered in an upcoming *Air Classics*).

Two Texas pilots posted a new world's endurance flight record of 1200-hours and 16-minutes (50-days!) in September 1958 in a new 1958 Cessna 172, powered by a 145-hp Continental engine. The flight was conducted over Dallas-Garland Airport. During the flight, some 22-tons of aviation fuel in two-gallon plastic bottles were picked up via a rope from a speeding pickup truck roaring down the runway. Bill Burkhart, 33, an ex-Air Force pilot, and Jim Heth, 26, an ex-Marine pilot, eclipsed the previous endurance flight record



Typifying the growth and glamor of Las Vegas during the 1950s, a copper-painted Ford Thunderbird speeds along with Timm's gleaming Cessna 172 that prominently featured the sponsor's name.


The Cessna 172 during one of its refueling runs.

Today, the restored Cessna is on display in the Las Vegas airport terminal.

of 1124-hours made in 1949 at Yuma, Arizona, by pilots Woody Jungeward and Bob Woodhouse in their Aeronca Sedan.

The Cessna 172 was named *The Old Scotchman* after the flight's sponsor, Gordon McLendon, who owned radio stations throughout Texas with a notoriety for showmanship and audience promotions. McLendon's radio stations profited from sponsoring the project through the promotions they staged to increase audience interest. The radio broadcasts gave acknowledgment to Gulf Oil and Gas and to Wynn's Friction Proofing additives, which were both used on the flight.

Burkhart and Heth averaged eight-hours of sleep daily. They kept their engine healthy by changing the oil by adding eight-quarts every 24-hours, replacing four-quarts at a time. Ultimately, the pilots were given generous and unsolicited honorariums from Cessna Aircraft Company and Continental Motors. The pilots noted that their key to success was that they did not know each other prior to the endurance flight!

Ultimately, the stock 172 traveled over 100,000 miles without stopping, the equivalent of making four trips around the world at the equator, without any engine maintenance whatsoever. Following the flight, the intrepid aviators commented that they could have remained aloft indefinitely because the airplane, engine, equipment, and themselves were still functioning normally upon landing. The engine's normal authorized time between overhauls was 800-hours, but the endurance engine still had compressions of at least 140-psig on all cylinders after 1200-hours of continuous operation. Mechanics estimated that the motor could have been flown for another 500-hours before needing to be overhauled. The pickup truck; however, wore out two sets of tires and brakes while transferring more than 7200-gallons of aviation fuel, two-gallons at a time, to the hungry Continental engine that burned six-gallons per hour at 2200-rpm.

The current world record for the longest continuous flight was set just a few months later by Robert Timm and John Cook when they flew a Cessna 172 out of Las Vegas for 64-days, 22-hours and 19-minutes. The airplane flew over 150,000-miles, nearly six-times around the earth.

Robert Timm, a former WWII bomber pilot, was working as a slot machine mechanic for the owner of the Hacienda Hotel and Casino that had just opened on the southern end of the Las Vegas Strip. Timm convinced the Hacienda owners to fund an attempt to break the flight endurance record. Timm purchased the Cessna 172 and spent a year modifying the airplane for the record attempt. A 95-gallon belly tank with an electric fuel pump was added to transfer fuel to the main wing tanks. The oil lines were rerouted to allow the engine oil and filters to be changed without shutting down the engine. A mattress, a small sink and a foldable camp toilet took the place where the rear seat previously was located.

The secret to Timm's success was the refueling method. Two times each day, the Cessna 172 would meet up with a fuel truck along a closed straight-stretch of highway along the California/Arizona border. The airplane would fly at a height of 20-feet above the road. The non-flying pilot would lower a hook to grab the refueling hose from the fuel truck and insert it into the belly tank. The fuel truck would then pump fuel for approximately three-minutes to fill up the 95-gallon belly tank. The endurance flight required the aircraft to be refueled 128 times in this manner.

Thirty-nine days into the record attempt, the generator failed. The remainder of the endurance flight was conducted without lights, heater fan, or the use of the electric fuel pump from the belly tank. All fuel transfers from the belly tank to the main wing tanks were then performed with a hand pump.

After two months aloft, the spark plugs loaded up with carbon and the engine performance noticeably deteriorated, particularly after the added load from each refueling. The pilots landed the airplane and had to be lifted out of the aircraft. Timm and Cook both remained in the Las Vegas area. Timm died in 1976 and Cook passed in 1995. The Hacienda Hotel was demolished in 1996. However, the Hacienda Cessna 172 now hangs proudly over the baggage carousels at the Las Vegas Harry Reid International Airport (KLAS), its endurance flight record still unbroken for 66-years! **AC**

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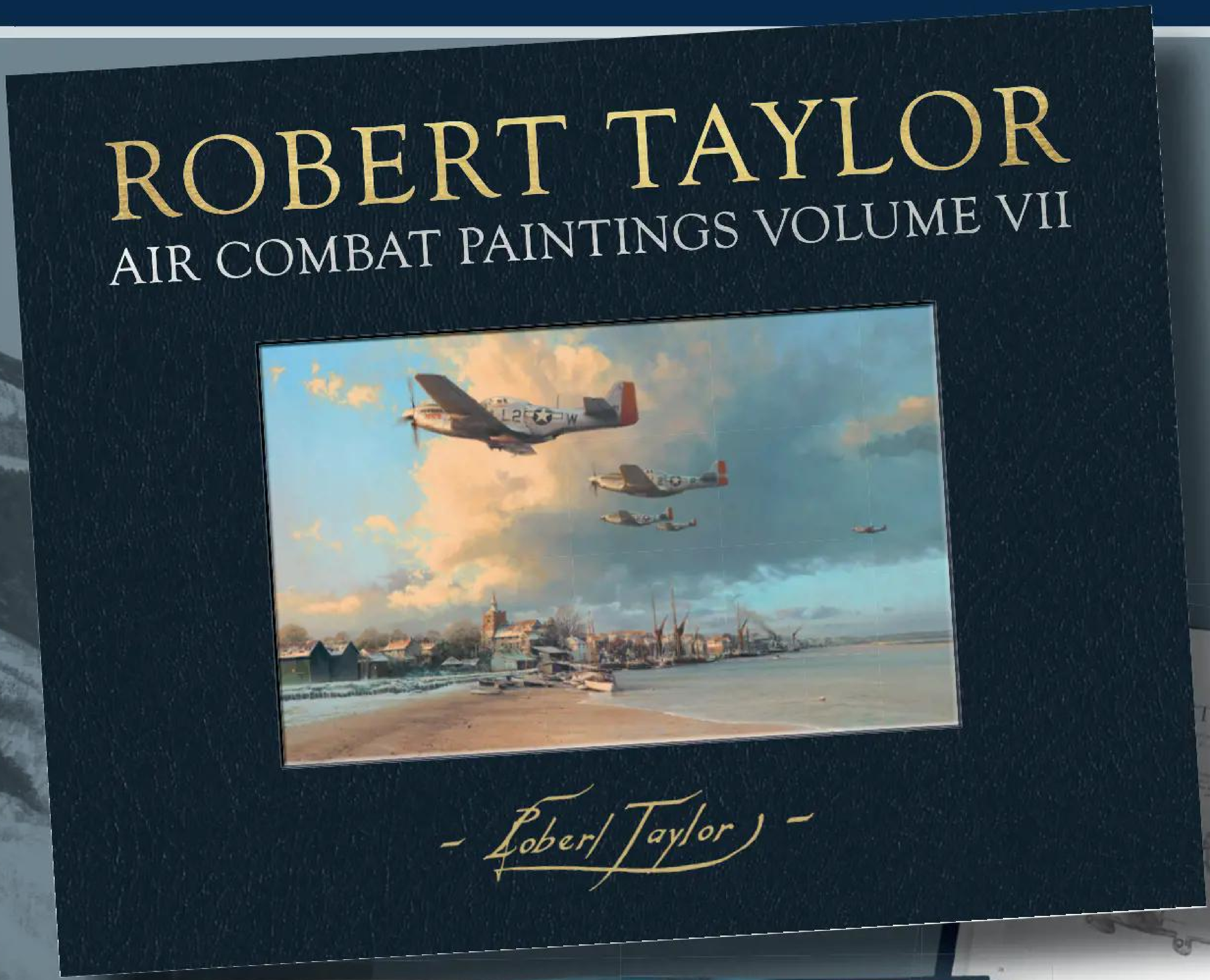
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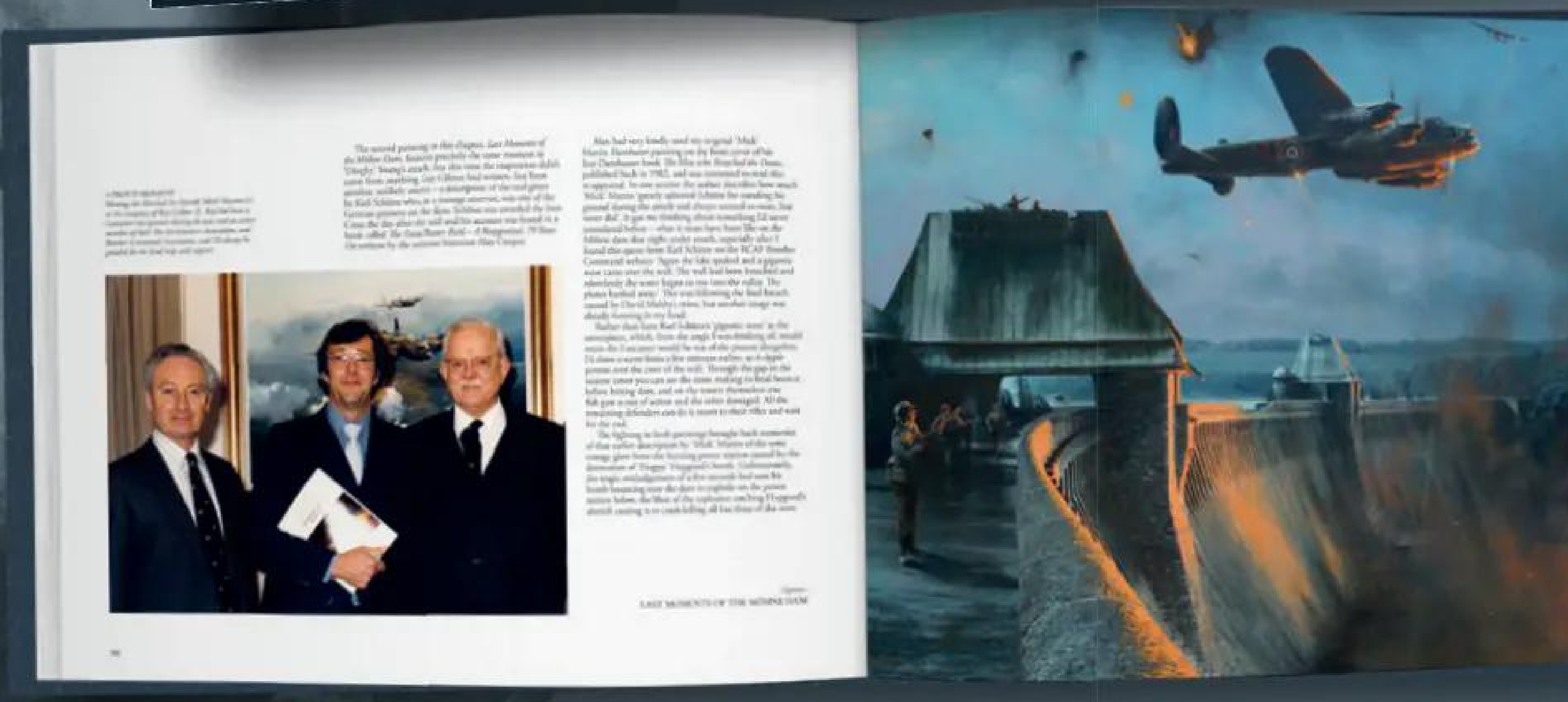

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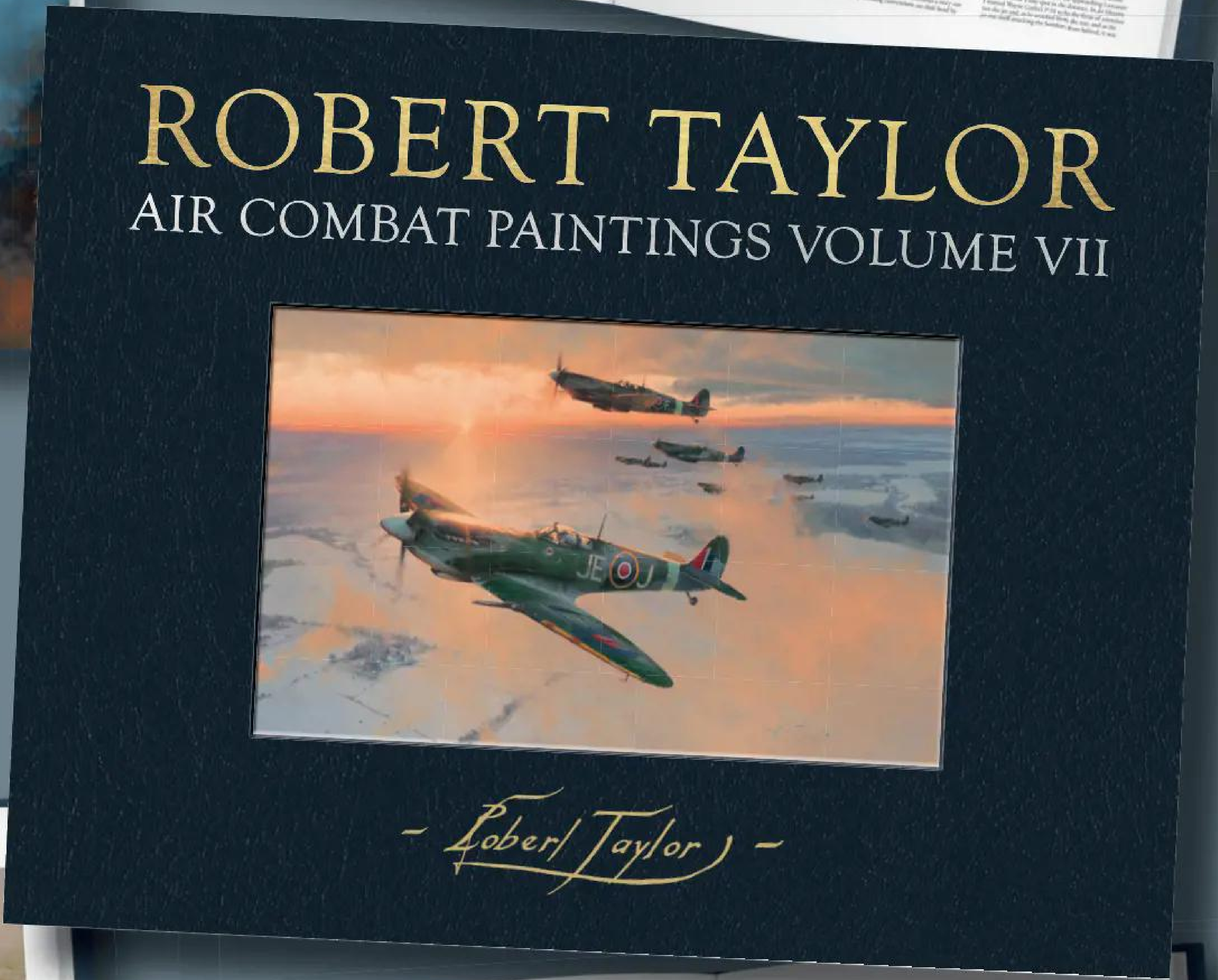
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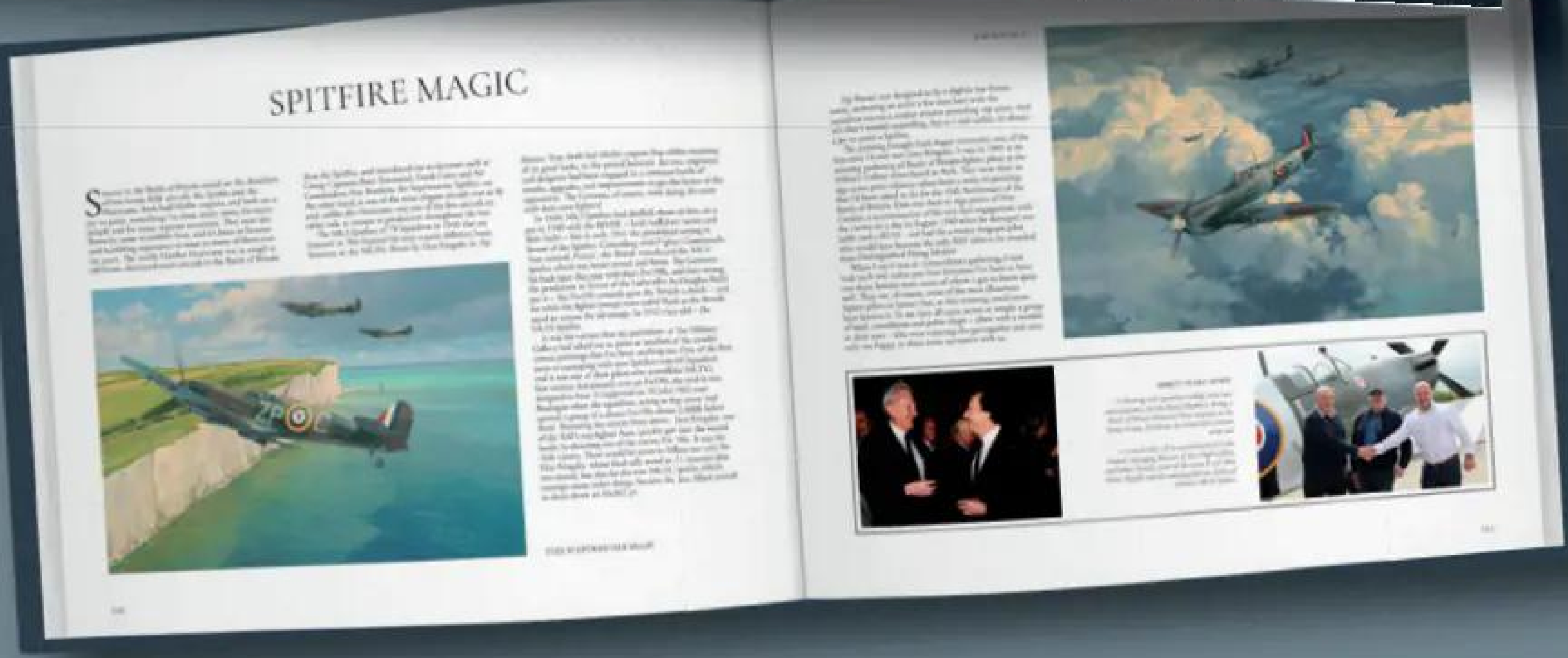
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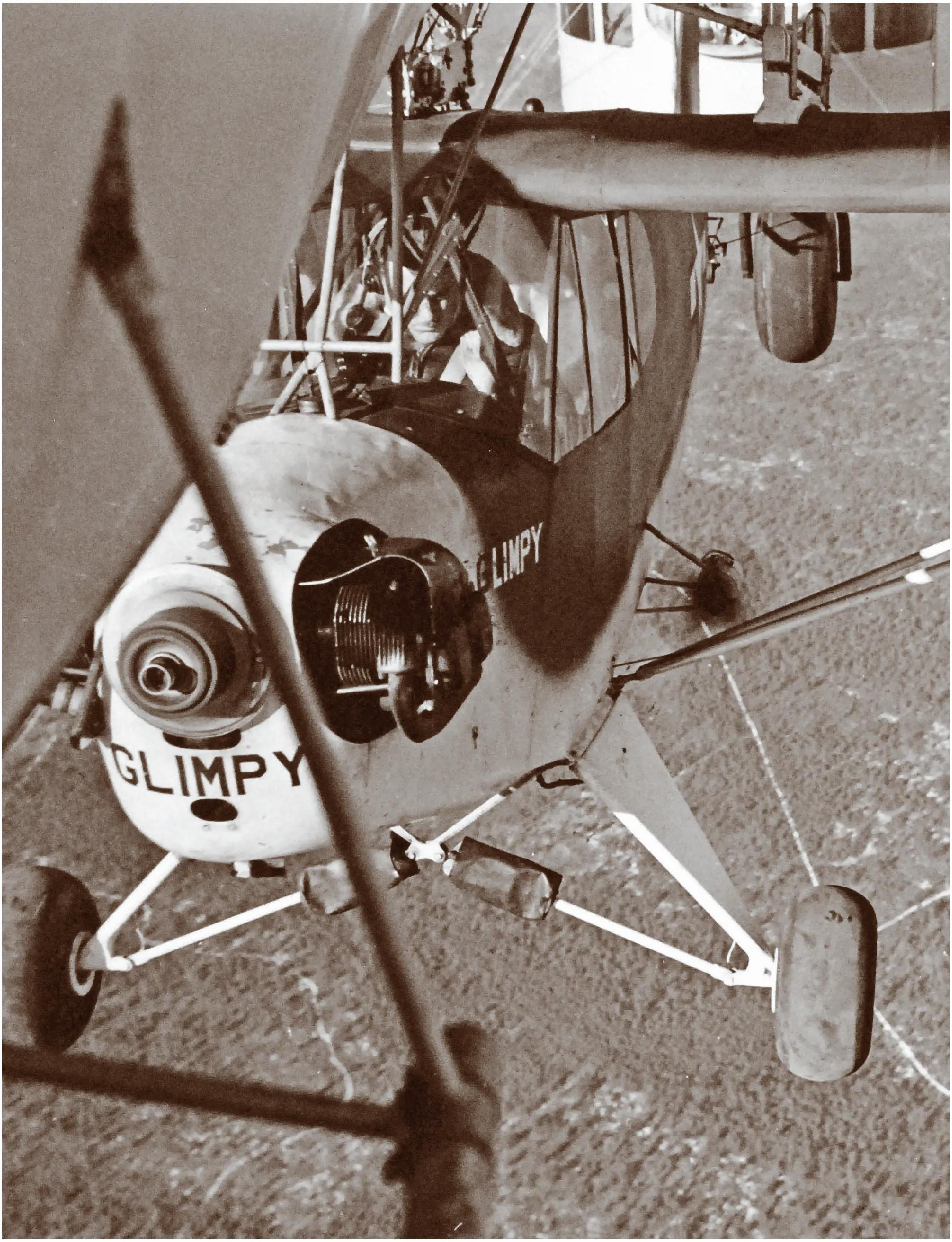


The pilot of the Cub appears to be a bit apprehensive as he looks at the photographer as *M-1* flies above NAS Lakehurst, New Jersey. The aircraft was given the name *Glimpy* and this was painted on the nose cowl and below the windscreen with the "G" in that position painted in a different color because of the aircraft's camouflage. Note the large wind-driven generator on the aircraft's lower left side. Why the name *Glimpy*? Once again, that has been lost to time but perhaps it is a combination of the derogatory term "gimp" blended with "blimp."

THE FLIGHT OF GLIMPY

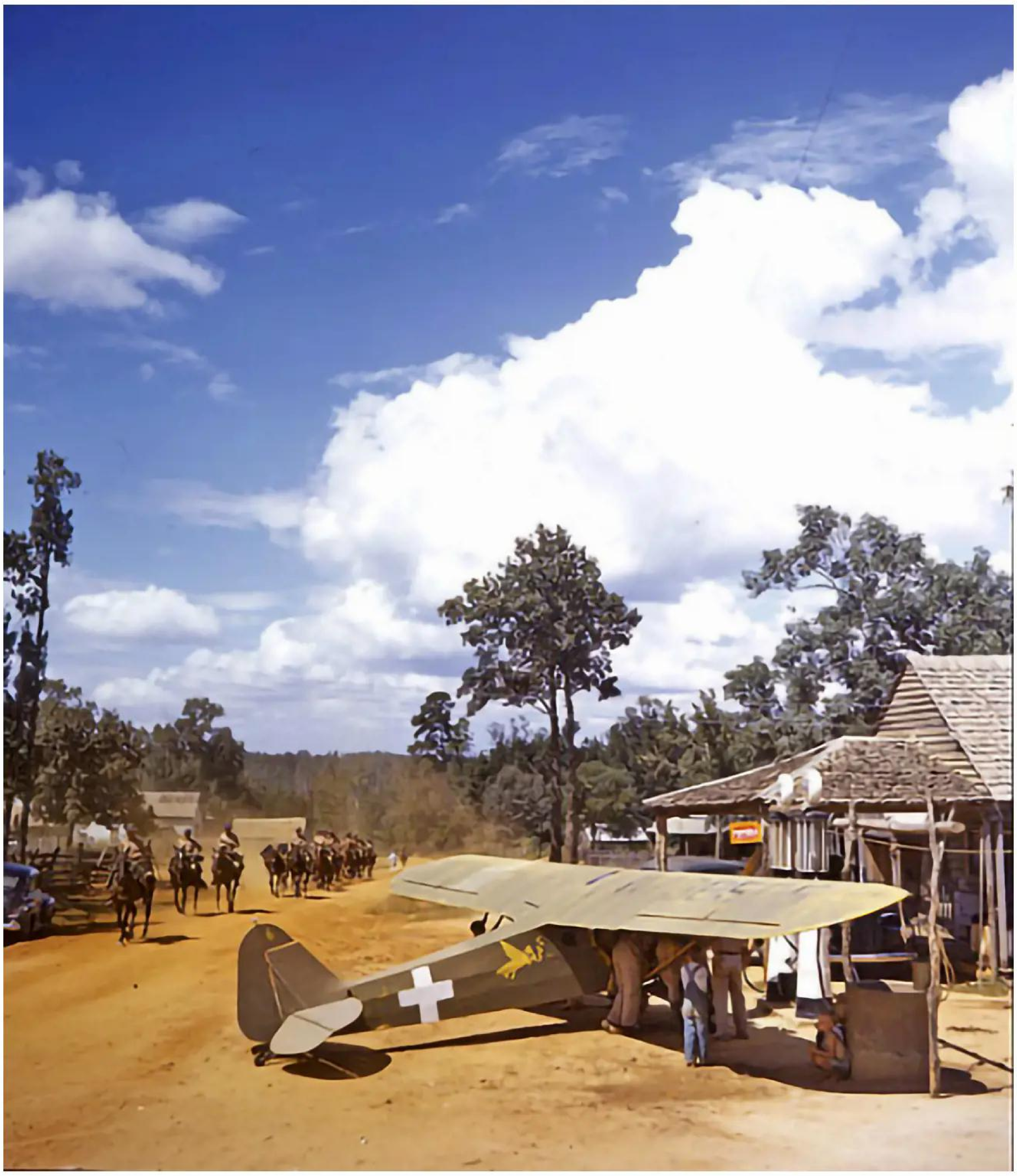
WHEN THE US NAVY MATED PIPER NE-1 CUBS WITH M-CLASS AIRSHIPS

BY ADAM STANTON

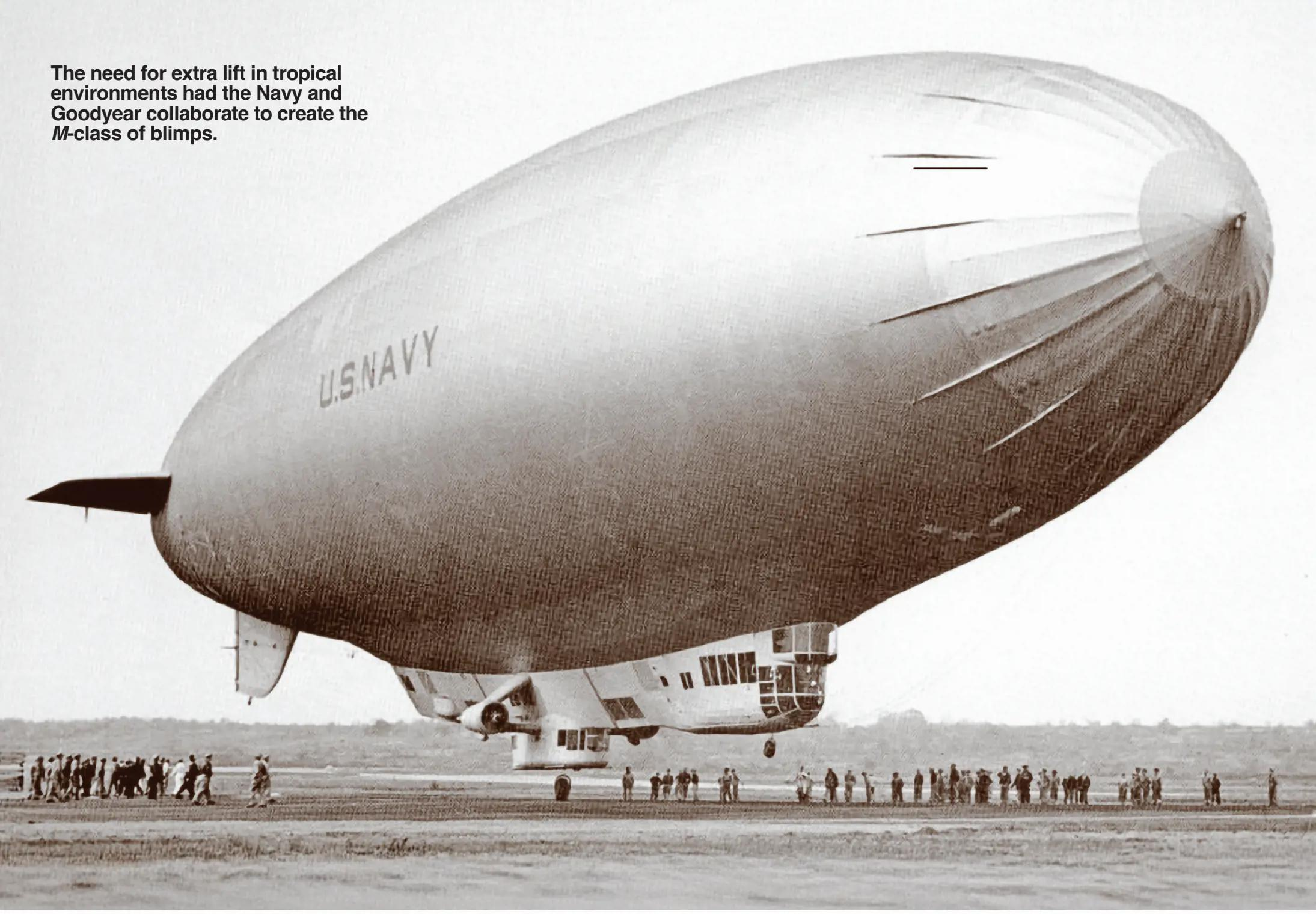
During the Second World War, the Goodyear *K*-class airships proved to be effective tools for aiding convoys in avoiding prowling Germany U-Boats. Capable of slowly pacing the ships of a convoy, trained observers aboard the *K*-class ships could spot U-Boats on the surface and cruising underneath the ocean. Armed with four 325-pound depth charges and a single .50-caliber Browning M2 machine gun fitted in the forward nose of the craft's car, the *K*-ships could attack the U-Boats but usually they helped coordinate attacks by surface warships and aircraft.

The waterways of the Gulf of Mexico and those surrounding the nations of Latin America were also fertile hunting grounds for the U-Boats but the Goodyear blimps ran into a problem in these warmer climes. The *K*-ships operating in the tropics experienced a loss of lift due to the higher ambient temperatures. Thus, the Bureau of Aeronautics and Goodyear got together to see what could be done about this problem.

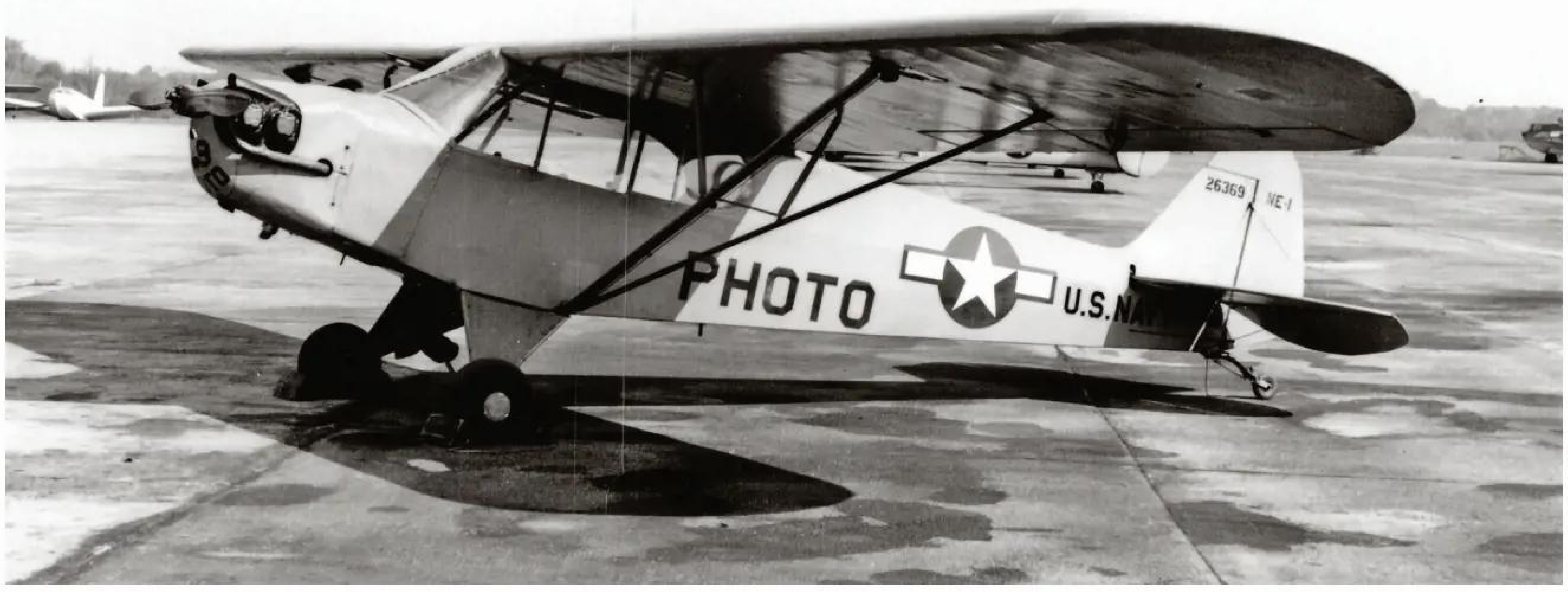
The answer was relatively simple — build a blimp that had a much larger envelope to hold more helium for the extra lift. This would allow the blimps to carry out their convoy protection patrols along with search and rescue missions in the tropics without a loss of lift. The new design was the *M*-class blimp and it had an envelope that was 50% larger than the previous *K*-class. A contract



The competition for selection of a light liaison or observation aircraft was intense and a number of different types were tested — including flight testing during the war games of the late 1930s and 1940/1941. In this photograph, a J-3 is parked at a rural gas station in the south as the pilot fills the tank while a unit of US Army cavalry passes by. The plane has been given a very quick coat of Olive Drab while the white cross was a war game marking. Note the elaborate insignia on the upper fuselage while the top right wing clearly shows the plane's civilian registration that has been lightly over-sprayed.



The need for extra lift in tropical environments had the Navy and Goodyear collaborate to create the *M*-class of blimps.



The Navy's 250 NE-1/NE-2 Cubs were put to a variety of uses (the BuNos were 26189 to 26425). Painted overall yellow, NE-1 BuNo 26369 has a large "PHOTO" on the fuselage sides, indicating the craft was used as a camera plane. Note the variety of aircraft in the background including the Navy's spectacularly unsuccessful Bristol XLRQ-1 amphibious glider immediately in front of the Cub's nose.

for the prototype *M*-class blimp was awarded on 16 August 1943 and this was almost immediately followed by a contract for production *M*-class airships that was issued on 11 September of that year. This contract specified the building of 21 *M*-class airships. These new blimps were designated ZNP-M. The Z stood for lighter-than-air while the N was for non-rigid, the P for Patrol, and the M for the type class.

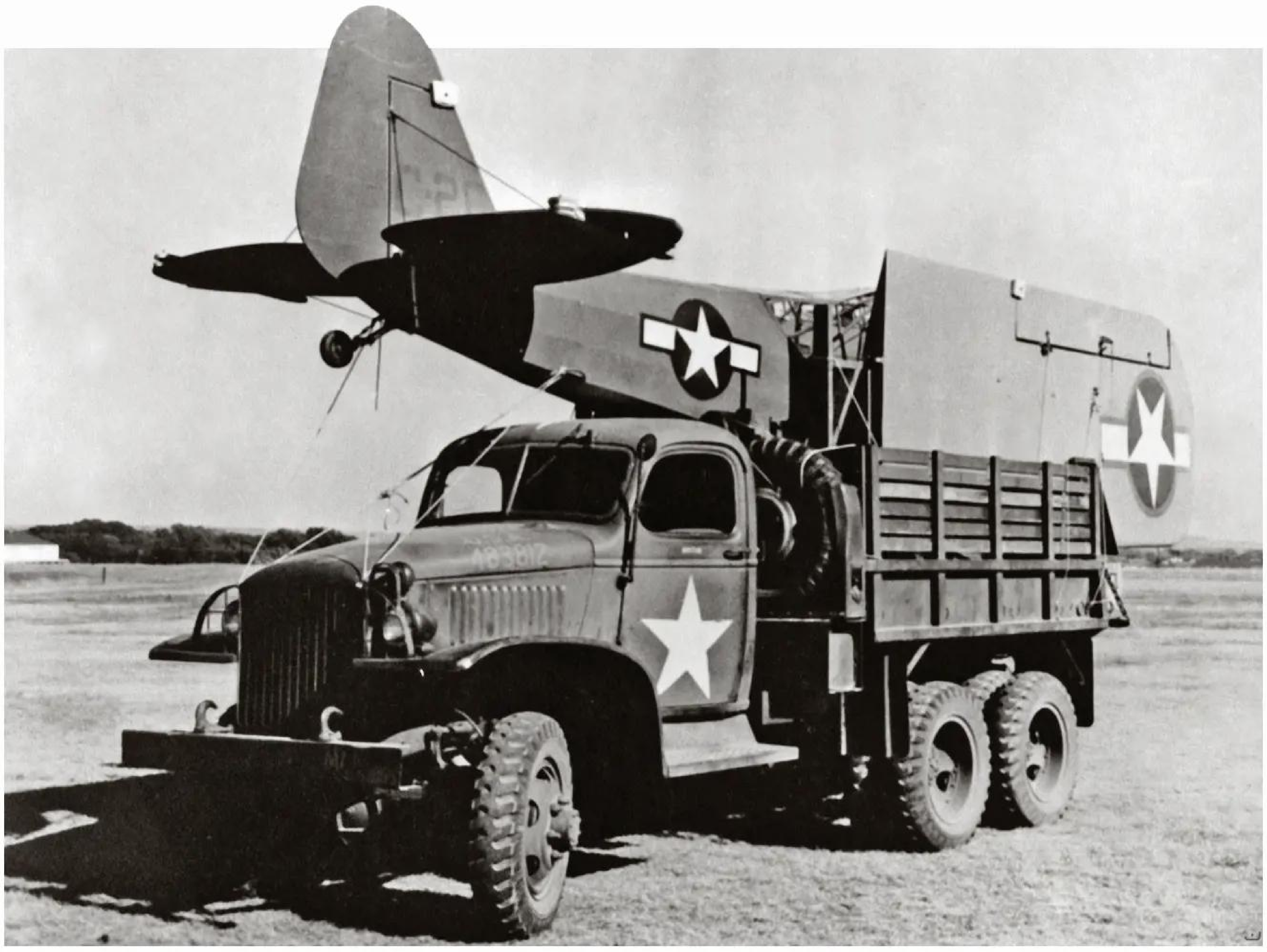
After once again going over their needs, the contract for 21 *M*-class blimps was slashed to just four airships through Planning Directive 16-ZZ-43 dated 22 November 1943. With a length of 310 feet, the *M*-class lifted a 117-foot-long control car (nearly three times as long as that of the *K*-class). The control car was constructed in three sections with universal joints between the sections and this was done to maintain a correct loading on the ship's catenary, which was the webbing internal to the envelope from which the control car was hung from the top of the envelope. The control of the weight distribution of the catenary was necessary to control wrinkling of the envelope. The first *M*-class blimp was designated *M-1* and it had a capacity of 625,000 cubic feet but the *M-2* through the *M-4* saw this increase to 647,000 cubic feet. Power came from a pair of Pratt & Whitney R-1340-AN-2 radials that were each capable of 550-hp.

The *M*-class also had a greater weapons capability than the *K*-class and it could lift eight 350-lb AN-Mk. 47 depth charges and a single Browning M2 .50-caliber machine gun. The Navy took delivery of the *M*-1 on 27 November 1943 while the *M-2* followed in February 1944 and *M-3* in March of that year. The *M-4* was accepted in April 1944. It is interesting to note that the Navy did not assign Bureau Numbers to these airships.

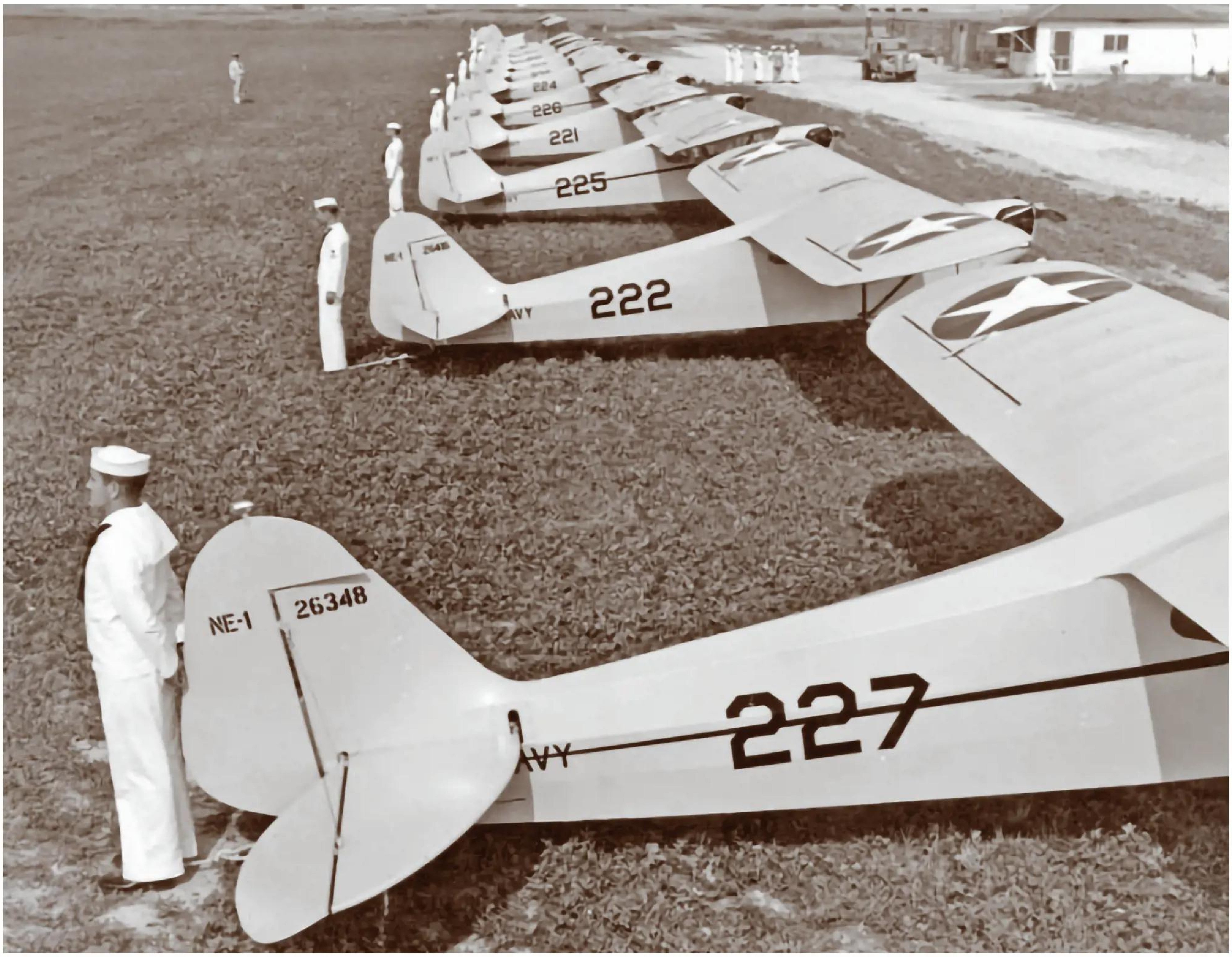
Not a lot could be done with just four of the *M*-class ships and they were assigned to Atlantic Fleet ASW operations in August 1944 but were used on a very limited basis during the war. Because of that, the *M*-class was available for experiments.

Readers of *Air Classics* are well-aware of the US Navy's massive rigid airships USS *Akron* and USS *Macon* as well as the extensive experiments undertaken to mount a variety of aircraft that could be raised and lowered from a trapeze-type affair. Aircraft utilized in these experiments included Fleets, Wacos, and, most importantly, the Curtiss F9C Sparrowhawk fighter. Outside the scope of this article, these aircraft and airships stand as very important steps in the development of naval Lighter-Than-Air aviation.

However, we are going to concern ourselves with what was known as Project *Warbler*. This little-known endeavor involved the *M-1* and Piper NE-1 Cubs. As America fought its way out of the

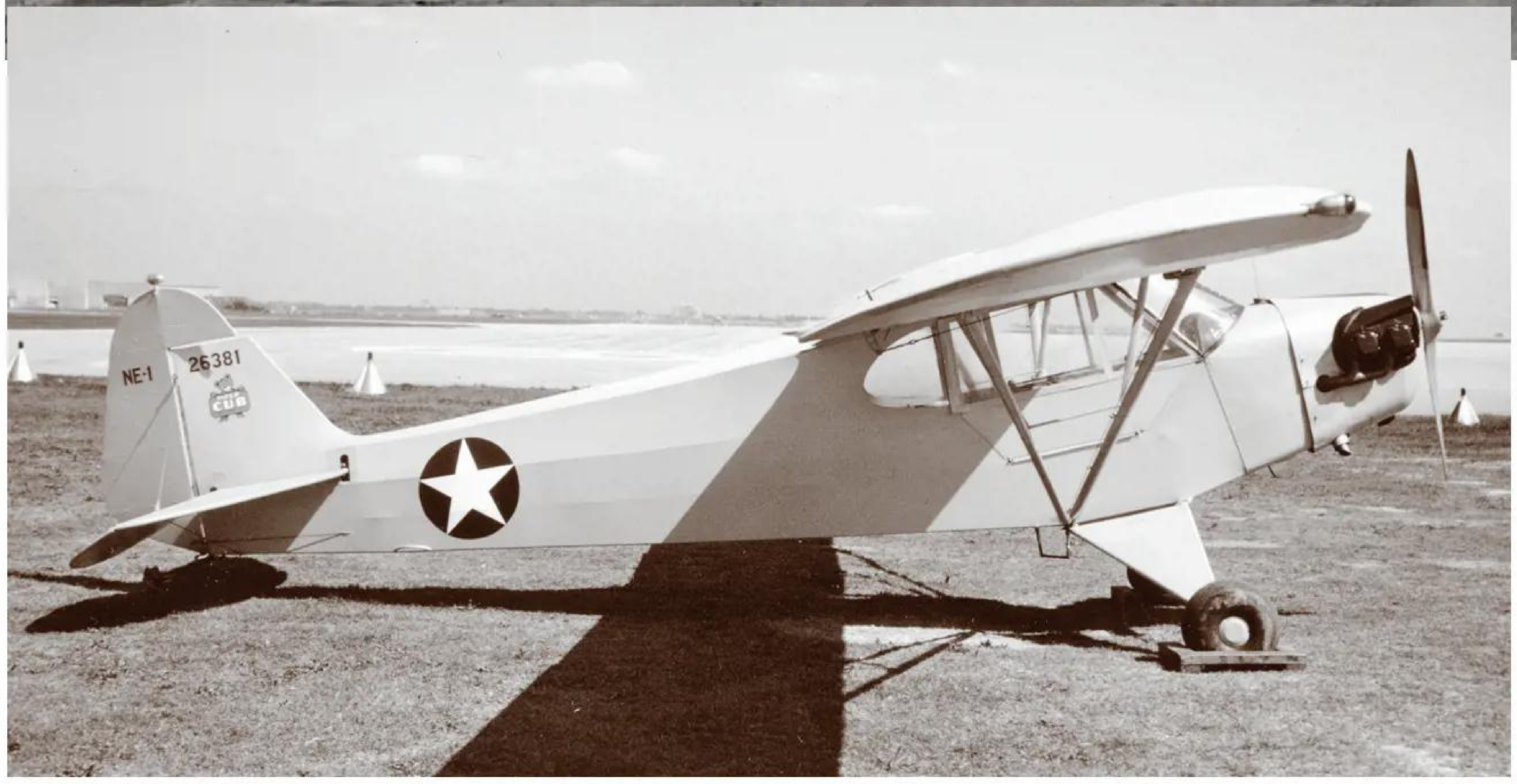


The Navy never needed the overland utility of the Army's L-4 and the Army experimented with many different ways of moving their L-4s. This disassembled airframe was being tested at Fort Sill, Oklahoma, and it could have been driven to the front lines, assembled, and then put into operation. Note the short-lived Insignia Red outline to the national insignia on the right wing.



Line-up of freshly-completed Navy NE-1s, all finished in overall Lockhaven Yellow. The significance of the fuselage coding is not known. Note that some of the Cubs have the characteristic Piper civilian black lightning bolt painted on the fuselage while others do not.

An *M*-class blimp at rest at NAS Santa Ana. With only four built, the *M*-ships were a rarity.



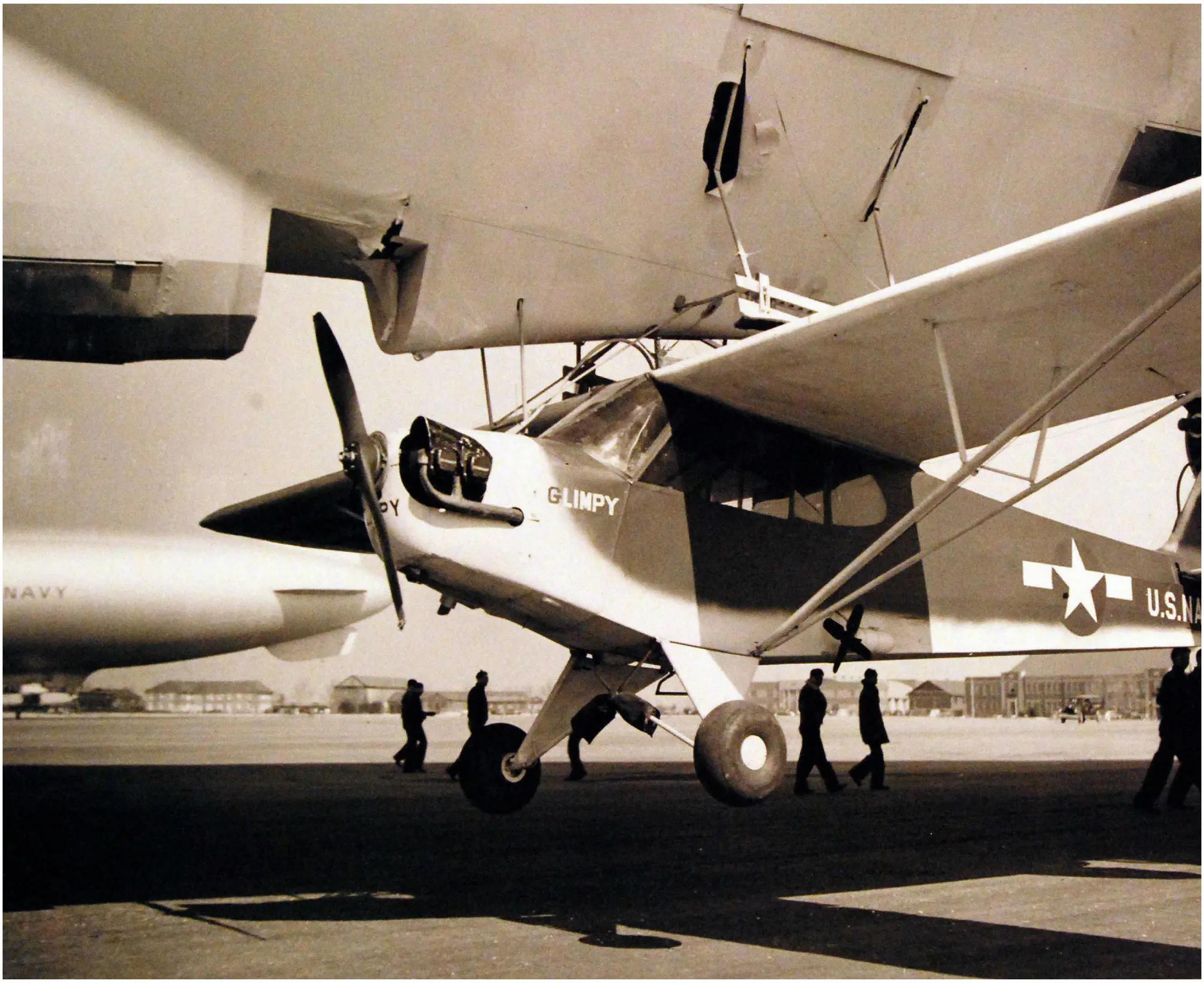
There are always variations in the finish of military aircraft. NE-1 BuNo 26381 carries the civilian Piper Cub decal on its vertical tail. The aircraft was photographed during 1942 at NAS Hampton Roads, Virginia.

Great Depression, production of the bright yellow little two-seater began to increase. Along with this, the American military began to change its strategic thinking. Did the Air Corps and Navy really need the large and lumbering biplanes and monoplanes that were being utilized under the “observation” and “liaison” classifications? Some forward-looking officers thought an advancing army or navy might be better served by small, inexpensive civilian aircraft that could be slightly modified for military work.

This led to a contest that saw examples of light aircraft from America’s many manufacturers (and we must remember that in the late 1930s there were considerably more aircraft builders than today) pitted against each other to win the lucrative military contracts and in many cases these contracts meant corporate survival. While the scope of this competition is outside the focus point of our article, Piper pretty much came out on top but other aircraft builders such as Aeronca, Taylorcraft, and Interstate also benefitted from smaller contracts for their products.

The J-3 Cub was already in widespread use for the Civilian Pilot Training Program as the nation cranked out aviators that could be utilized for a war that was now almost certain. The Air Corps, and later Army Air Force, had the majority of their contracts with Piper produce a modified variant of the J-3 that saw considerably more plexiglass space for the observer along with the addition of basic military equipment. Piper would go on to build a stunning 5413 military examples that were designated as L-4.

As the primary contractor for the military Cub, procurement of the plane for America’s other military services would be handled by the Army. Thus, when the US Navy and US Coast Guard figured they had a need for the military Cub, the Bureau of Aeronautics conferred with their Army counterparts and contracts were issued that would see the production of 250 Navy Cubs that would receive the designation of NE-1 and NE-2. The NE-1 was basically a stock J-3C-65 and 230 were built (and delivered without the extensive extra plexiglass of the L-4) while the NE-2 was basically like the Army’s L-4H and 20 examples were obtained but some

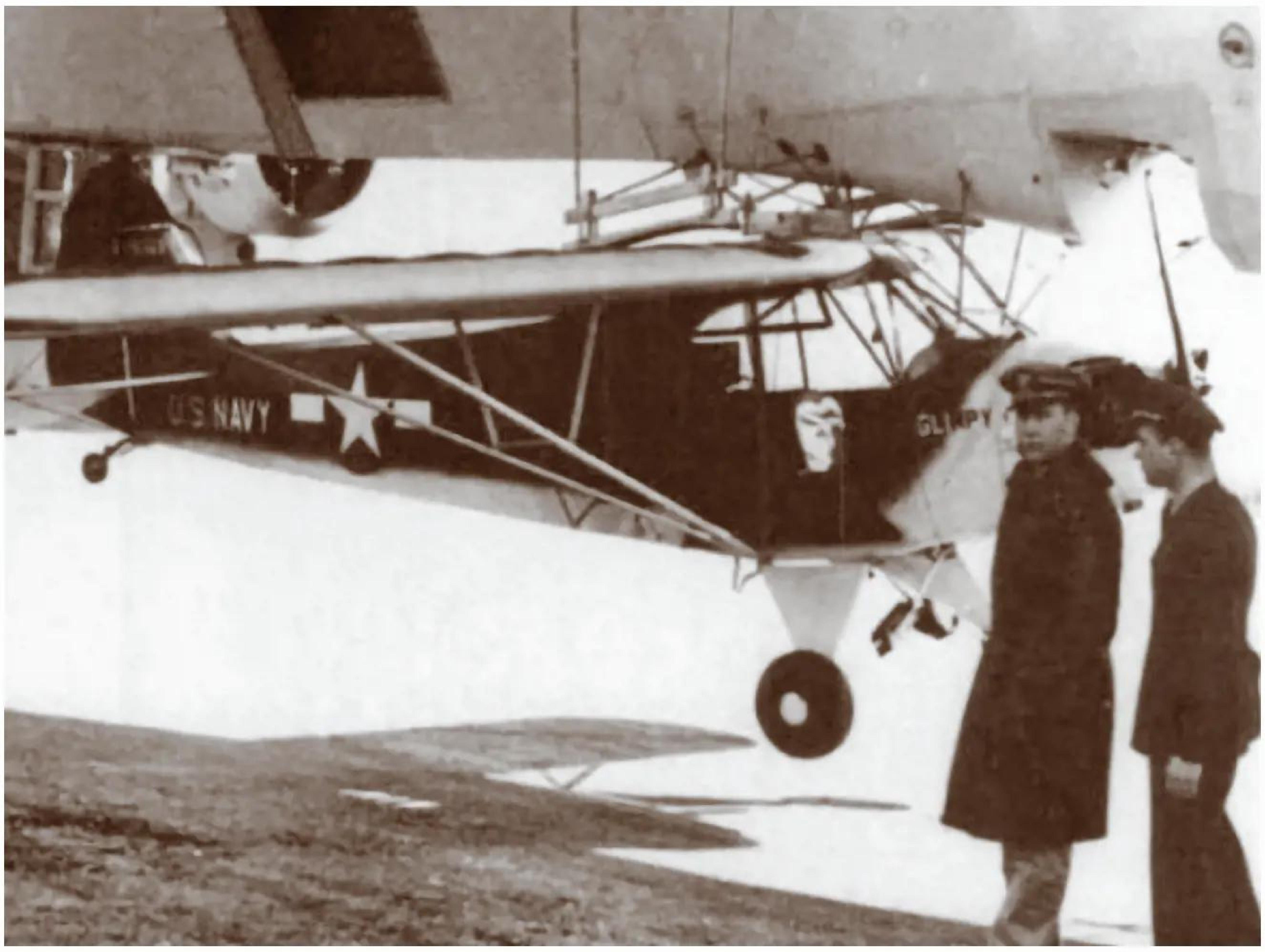


***Glimpy* attached to *M-1* and ready for a test flight. The gap cut in the airship's hull is clearly evident and certainly not the most graceful piece of workmanship with a hanging piece of the airship's covering.**

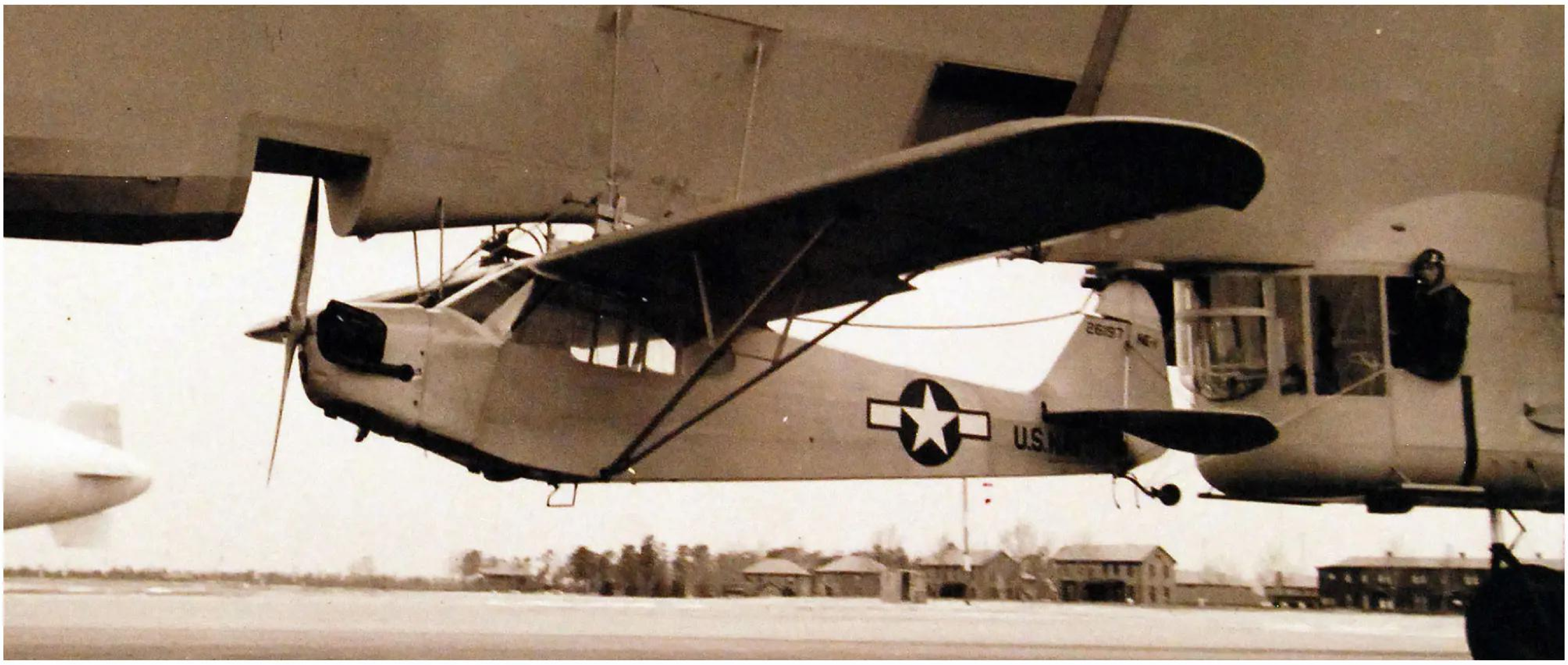
sources state just ten were delivered.

This brings us back to the *M*-series of blimps and Navy blimps in general. Although a useful tool in searching for U-Boats off the coast, the blimp had its limitations. Operation of the blimp required a specialized mooring mast and the majority of these were fixed units installed at land bases. There were experiments with portable mooring masts and with attempting to create a ship-borne mooring mast that would allow a blimp to dock with a variety of Navy surface vessels.

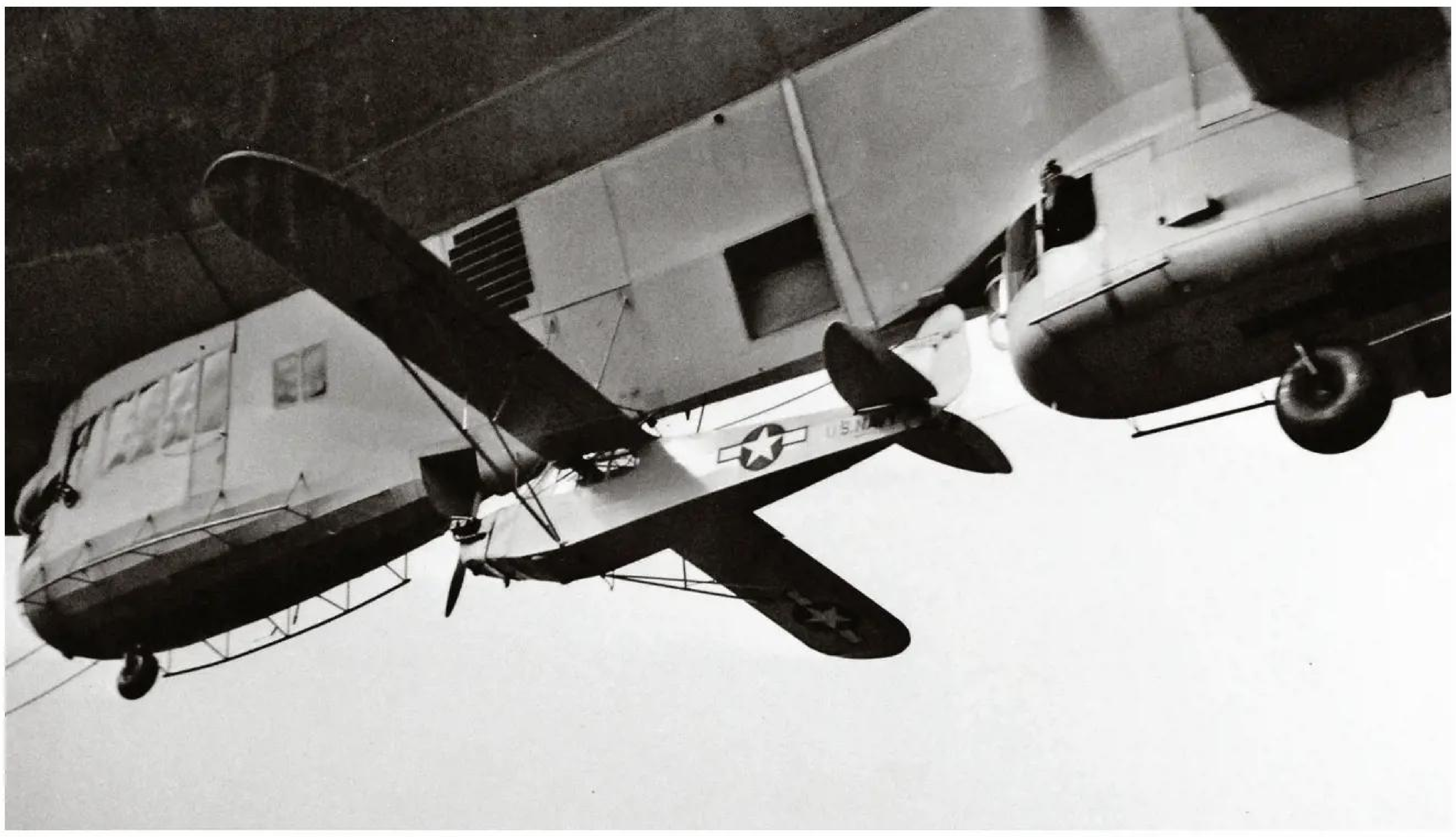
The Navy had its four *M*-class blimps that were basically without a mission while also having a surplus of NE-1 Cubs. The *K*-class blimps were the Navy's main Lighter-Than-Air weapon against the U-Boats but they also had limitations in the fact they could only carry four depth charges (or "depth bombs" as they were called) and



Two officers inspect *Glimpy* and the cradle that carried it aloft. An unidentified insignia is on the right side of the cockpit while the name has been painted in two different colors so that it will stand out from the camouflage.



The second NE-1 used in the experiments was BuNo 26197. As can be seen, it did not have the wind-driven generator and the main landing gear legs were removed. Also, the cradle installation on the airship has been considerably cleaned-up.



NE-1 BuNo 26197 heads aloft for a test flight. The main objective would have been to convert the Cub to a radio-controlled drone that would be filled with explosives and directed down towards a U-Boat.

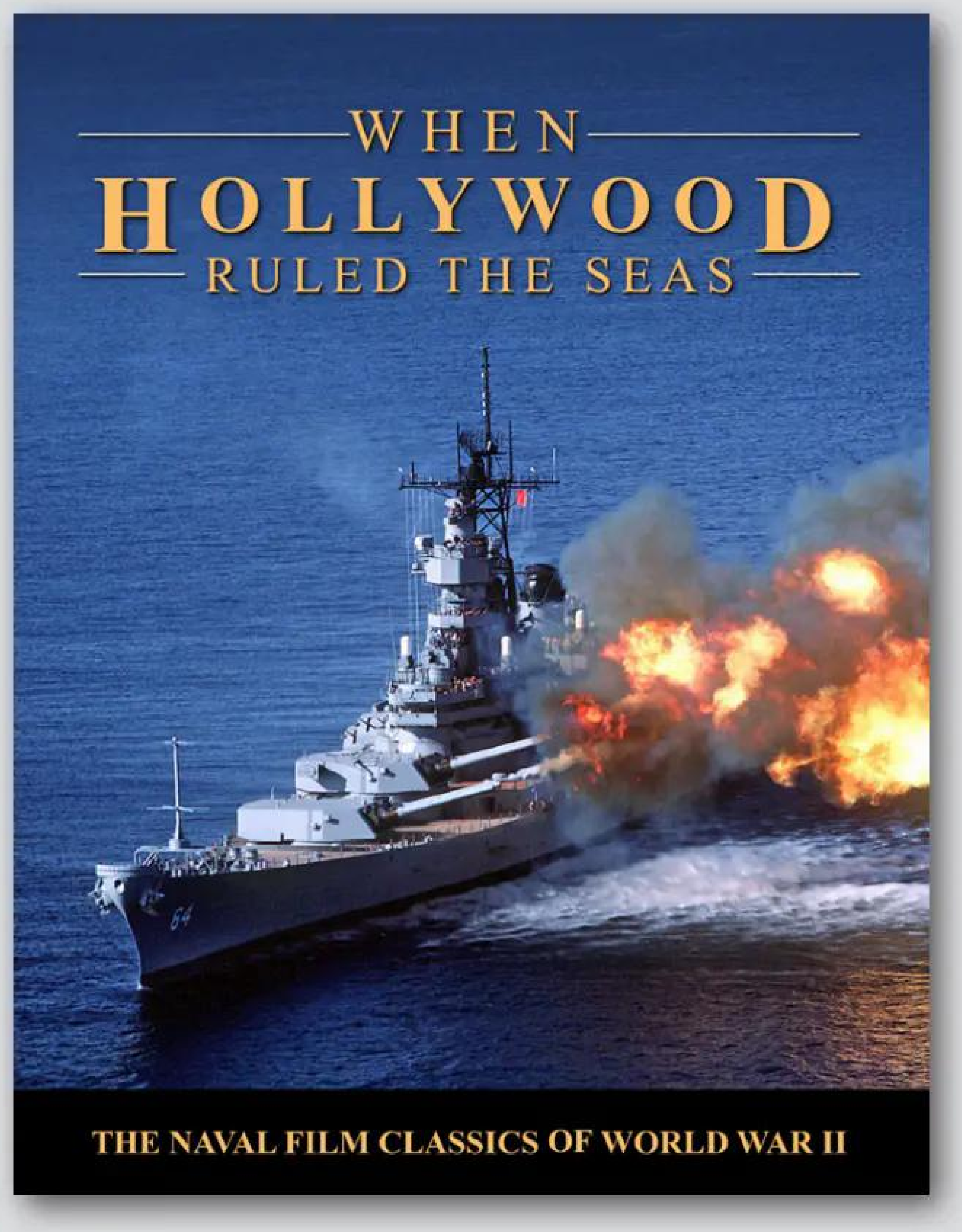
they could only return to fixed bases with mooring masts. What if a small observation aircraft could be mated to the blimp to allow the plane to quickly interact with ground bases? More radical thinking came up with the idea of stripping said aircraft of landing gear and anything else that could make it lighter and then filling the plane with explosives and radio-control gear that would allow the operator in the blimp to steer the explosive-laden device into a maneuvering U-Boat!

These two differing concepts became part of Operation *Warbler* and *M-1* was assigned to the project (remember, these blimps had no BuNos and just utilized their "bag" number) along with at least two Cubs and a small cadre of officers and enlisted men. The goal was to modify *M-1* to carry the Cub and release it in flight. There was no thought of recovering the Cub back to the *M-1* so the attachment cradle and release device were relatively basic.

We have found two Cubs assigned to this project. One was painted in an unusual camouflage scheme (there is a lot of debate over the colors) while the other was an overall lighter color (perhaps sprayed aluminum). The *M-1* required a few minor modifications for Operation *Warbler* and this included a "cut-out" in the framework of the blimp to accommodate the Cub's propeller. There was no access from the blimp to the Cub so the pilot would have to stay in the cockpit the entire length of the mission. Several successful flights were made and the Cub departed the blimp, flew around for a bit and then landed at the airfield.

The second Cub, NE-1 BuNo 26381, had its main landing gear removed but the tail wheel was left in place. The wind-driven generator was also not installed and it appears this airframe would have been used for the radio-controlled powered bomb experiments. It does not seem that the radio-control gear was installed in the aircraft and it is not known if this airframe was actually dropped from the *M-1*. If there had been a pilot aboard, a belly-landing would have been relatively easy as long as the Cub was released over a flat area of real estate. When ready, the pilot would simply shut off the 65-hp engine, position the prop horizontally, and then slowly belly-land with little to no damage to the airframe. The radio-controlled Cub fitted with explosives could have posed a threat for a surfaced U-Boat but one must remember that the German gun crews were well-trained and the slow moving Cub would have proven to be a tempting target. For a submerged U-Boat, the Cub would have propably been less of a threat than a well-placed depth bomb.

What happened to Project *Warbler*? After the *M-1* was modified and the test Cubs operated on just a few flights, it just seems that the entire idea went away — like so many other WWII concepts that initially appeared to have merit but testing proved them to be either insufficient or just not needed. The Cubs and the *M-1* went on to more standard duties and Project *Warbler* became a footnote in the dusty archives of history. **AC**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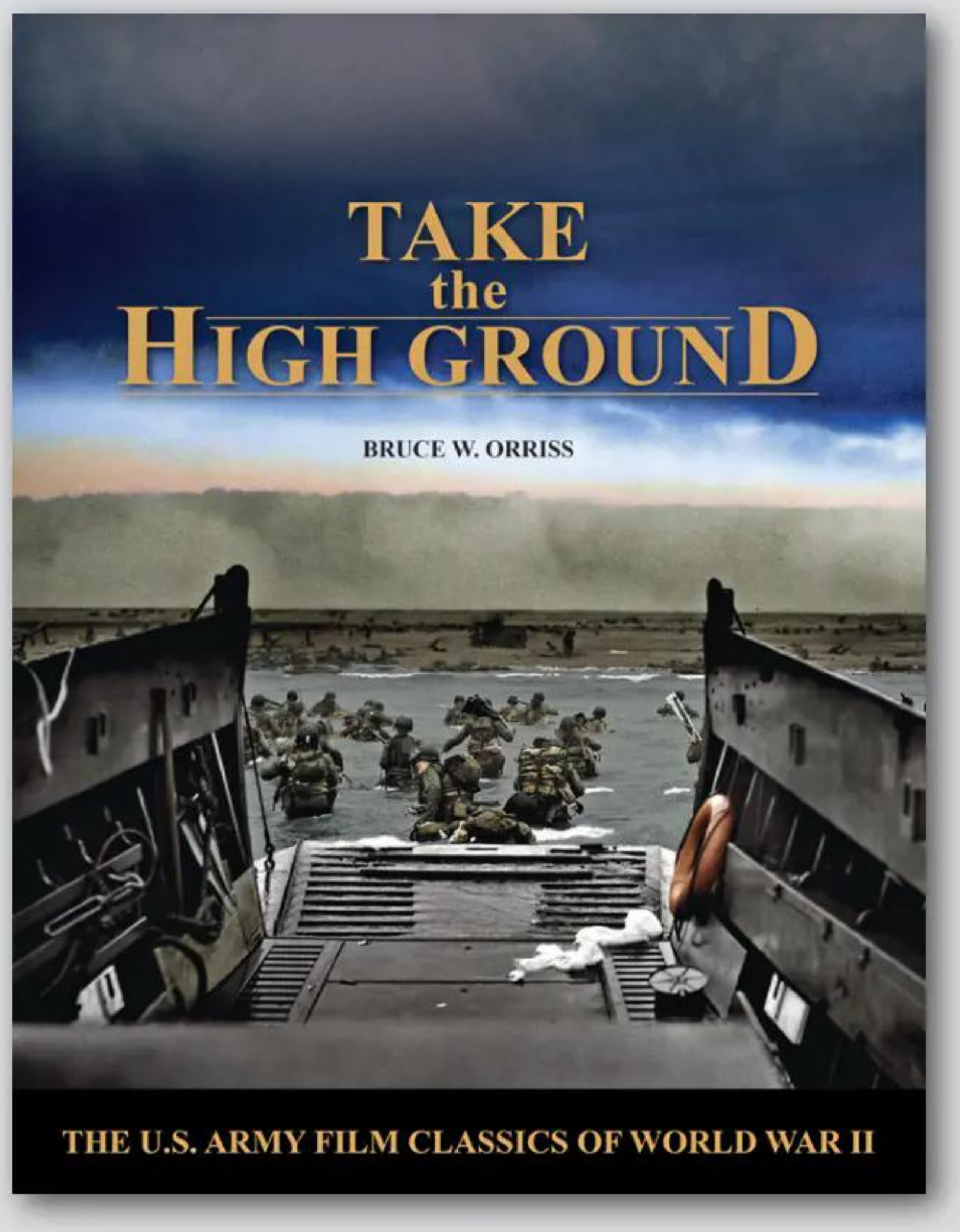
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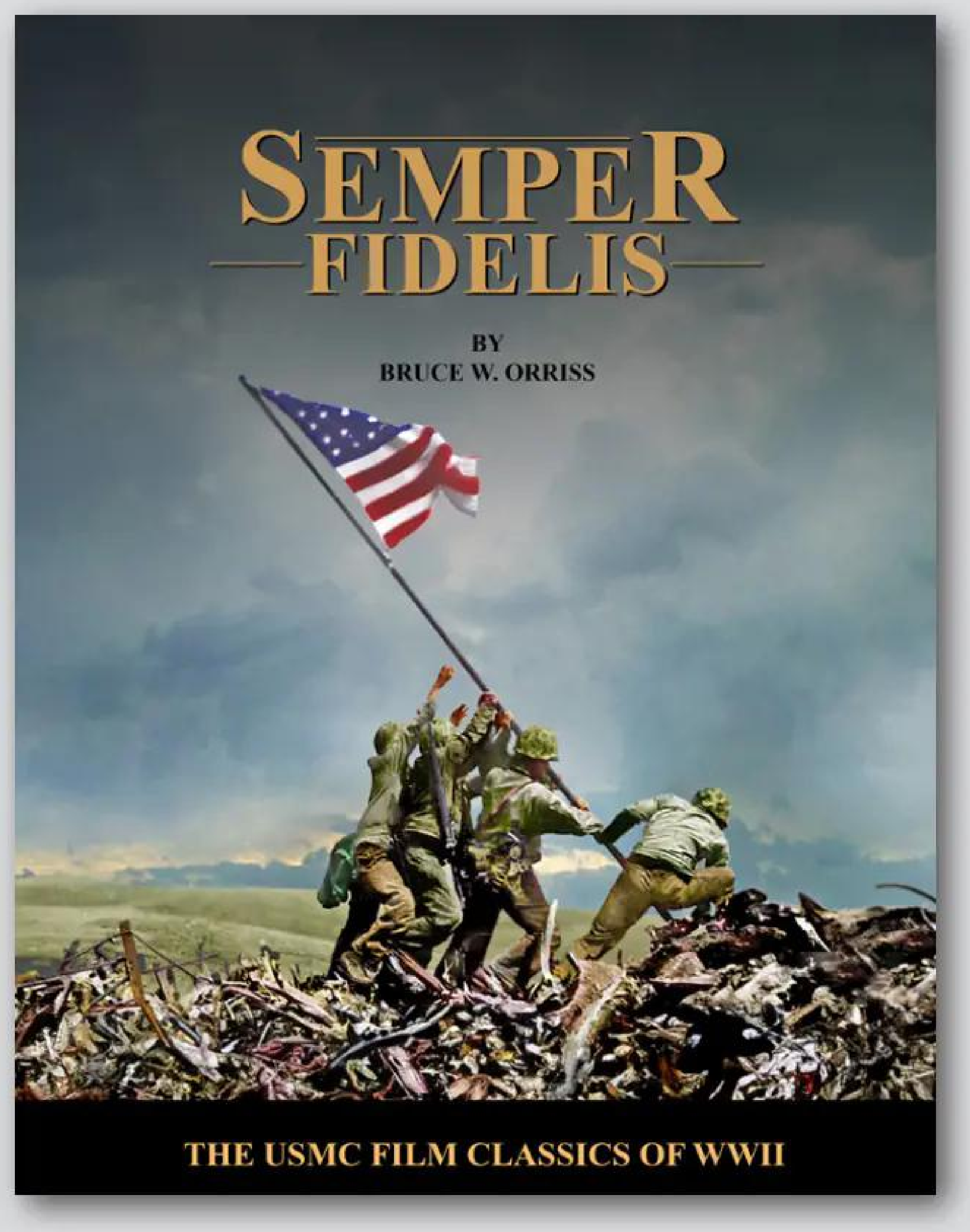
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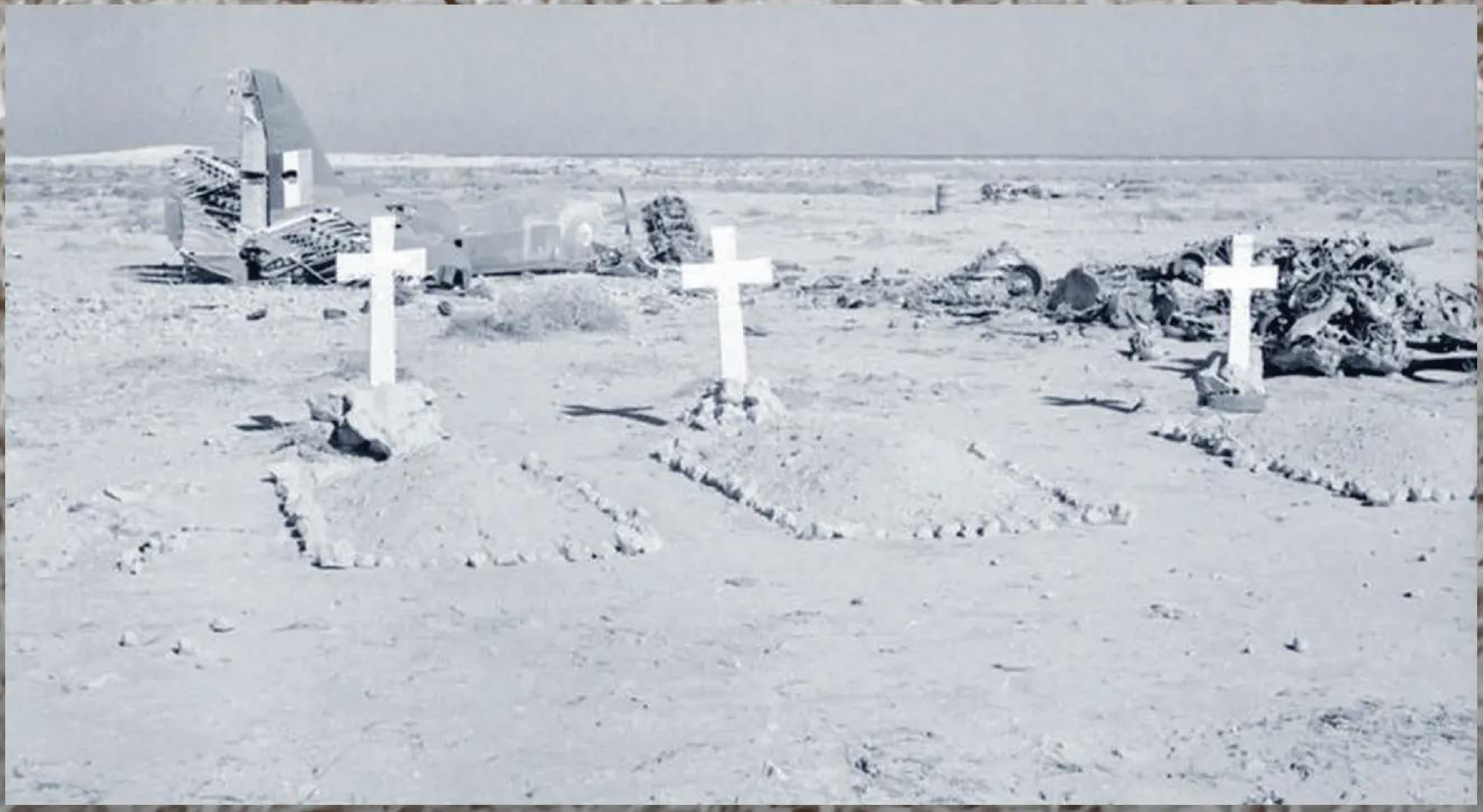
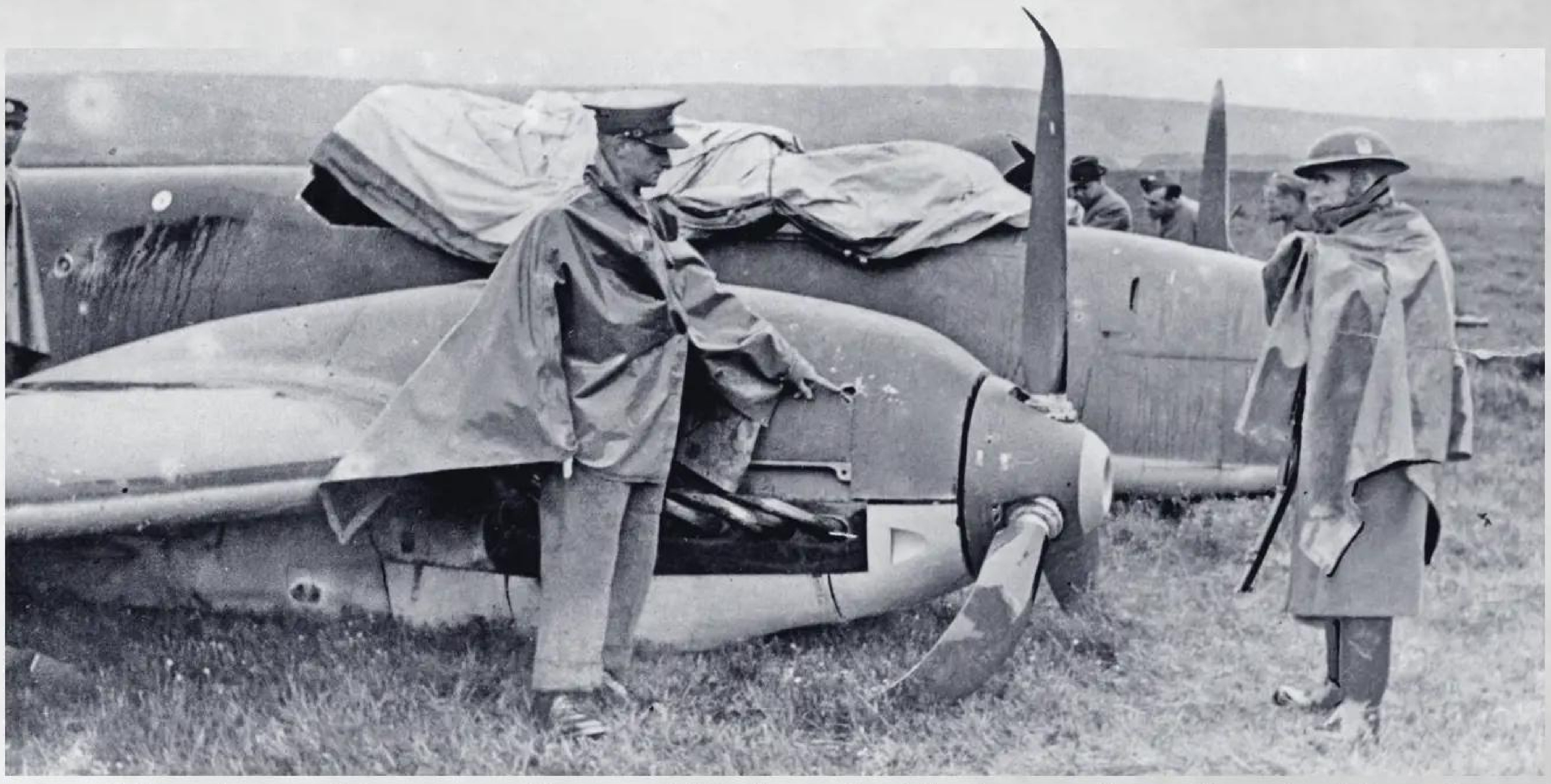
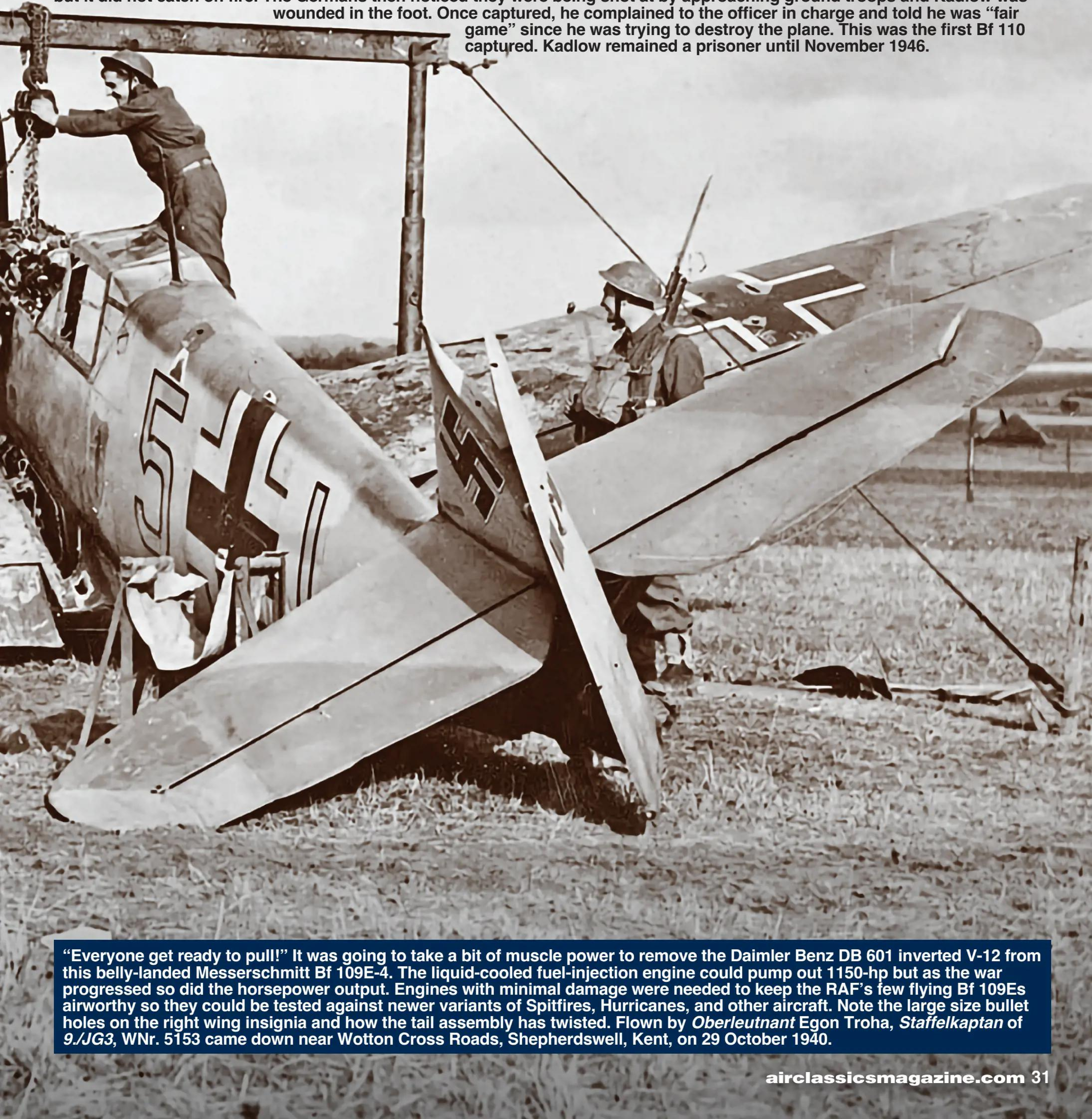
BY MICHAEL O'LEARY



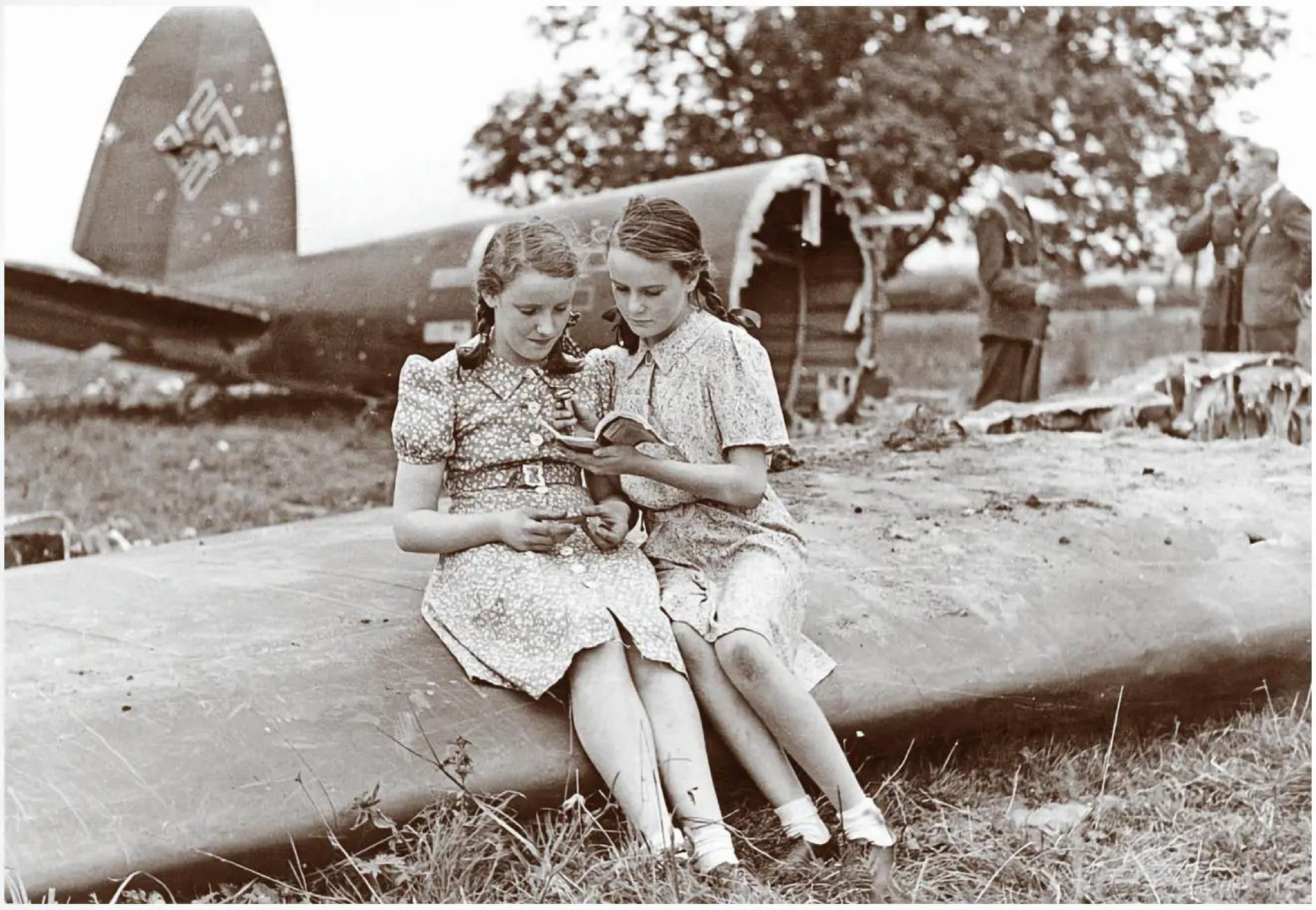
The cost of war is graphically illustrated in this view of the graves of three South African Air Force aircrew that died in the crash of their Martin Maryland Mk. II No. 1609 in the Western Desert on 14 June 1941. On that date, *Oberleutnant* Ludwig Franzisket of *3./Jagdgeschwader 27* encountered the Maryland and its Hurricane escort southwest of Ain el Gazala, Libya. The Messerschmitt immediately engaged the South African Air Force Hurricane and shot it down (serial V7818) and a minute later sent the Maryland down. The Maryland had a crew of four and three were killed while the survivor became a POW with the Germans.



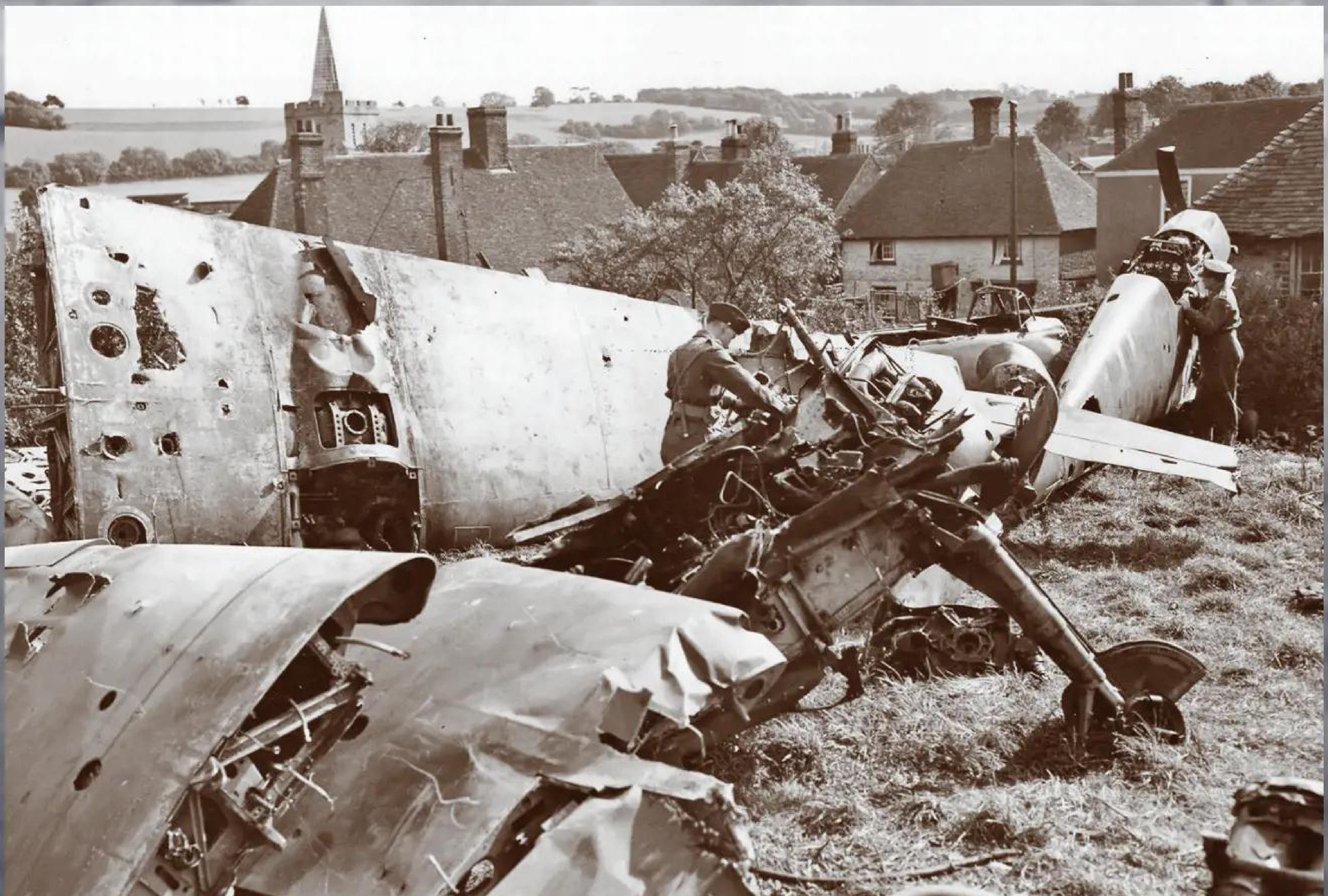
With the left engine shut down, the pilot of this Messerschmitt Bf 110C-4 brought his fighter in for a near-perfect gear-up landing in a British field. The twin-engine Messerschmitt (WNr. 3551/2N+EP) was attacked by Hurricanes from No. 238, No. 87, and No. 601 Squadrons. Flying with *9 Staffel* of *Zestorergeschwader 76* on 11 July 1940, *Staffelkapitan* Gerhard Kadlow and *Gefr.* Helmut Scholz were protecting Stukas dive-bombing targets on the south coast when attacked by 20+ RAF fighters. After the 110 was hit numerous times, the pilot jettisoned his canopy but his gunner's canopy was damaged and could not be loosened. This meant Kadlow could not take to his parachute or attempt a water landing since that would mean sure death for the gunner. After the crash-landing, the two men managed to get out of the plane with some effort and Kadlow decided to set it on fire. At this point, they had not been issued explosive charges so he opened the cap on a fuel tank and fired his pistol until empty into the tank but it did not catch on fire. The Germans then noticed they were being shot at by approaching ground troops and Kadlow was wounded in the foot. Once captured, he complained to the officer in charge and told he was "fair game" since he was trying to destroy the plane. This was the first Bf 110 captured. Kadlow remained a prisoner until November 1946.



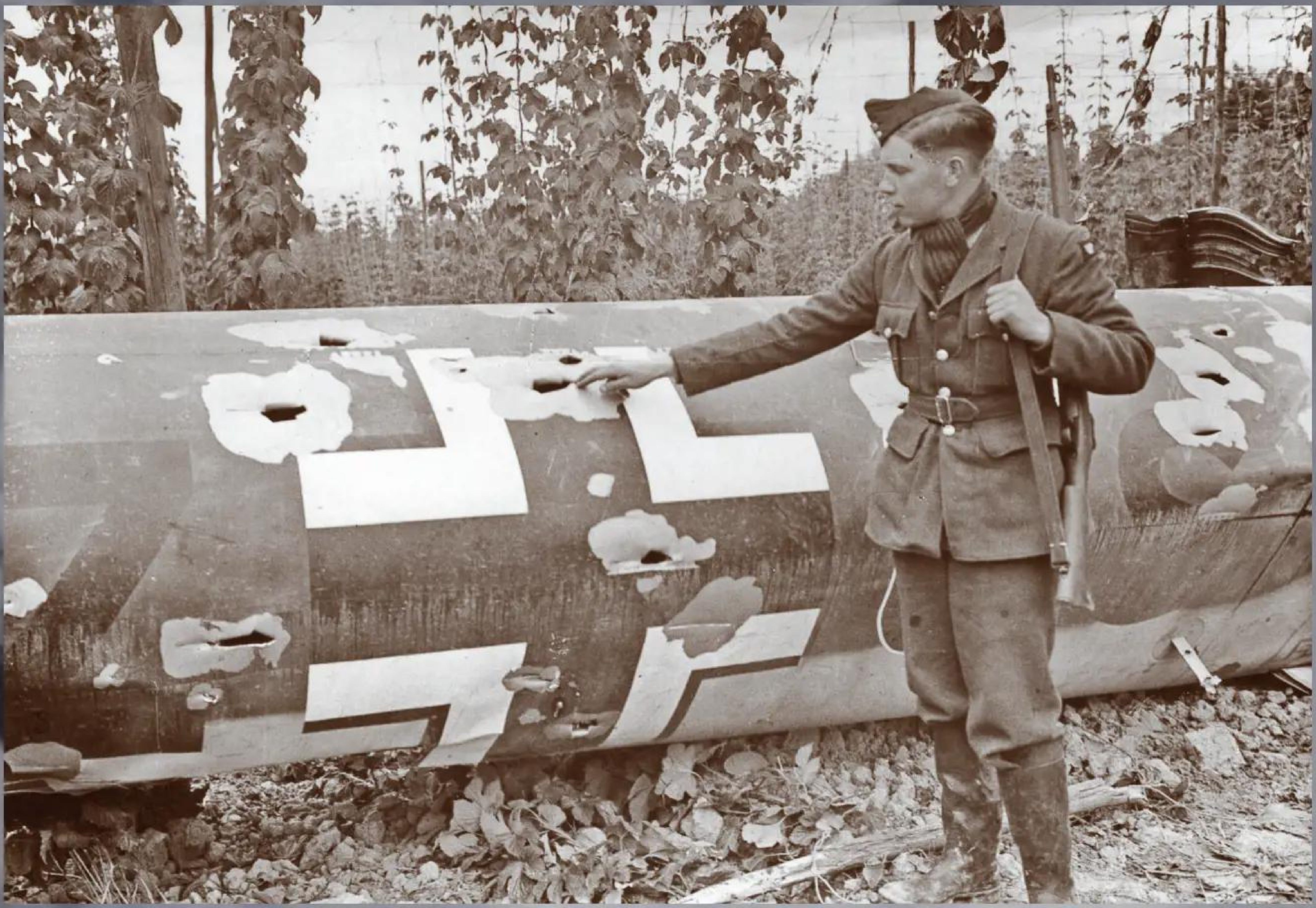
"Everyone get ready to pull!" It was going to take a bit of muscle power to remove the Daimler Benz DB 601 inverted V-12 from this belly-landed Messerschmitt Bf 109E-4. The liquid-cooled fuel-injection engine could pump out 1150-hp but as the war progressed so did the horsepower output. Engines with minimal damage were needed to keep the RAF's few flying Bf 109Es airworthy so they could be tested against newer variants of Spitfires, Hurricanes, and other aircraft. Note the large size bullet holes on the right wing insignia and how the tail assembly has twisted. Flown by *Oberleutnant* Egon Troha, *Staffelkaptan* of *9./JG3*, WNr. 5153 came down near Wotton Cross Roads, Shepherdswell, Kent, on 29 October 1940.



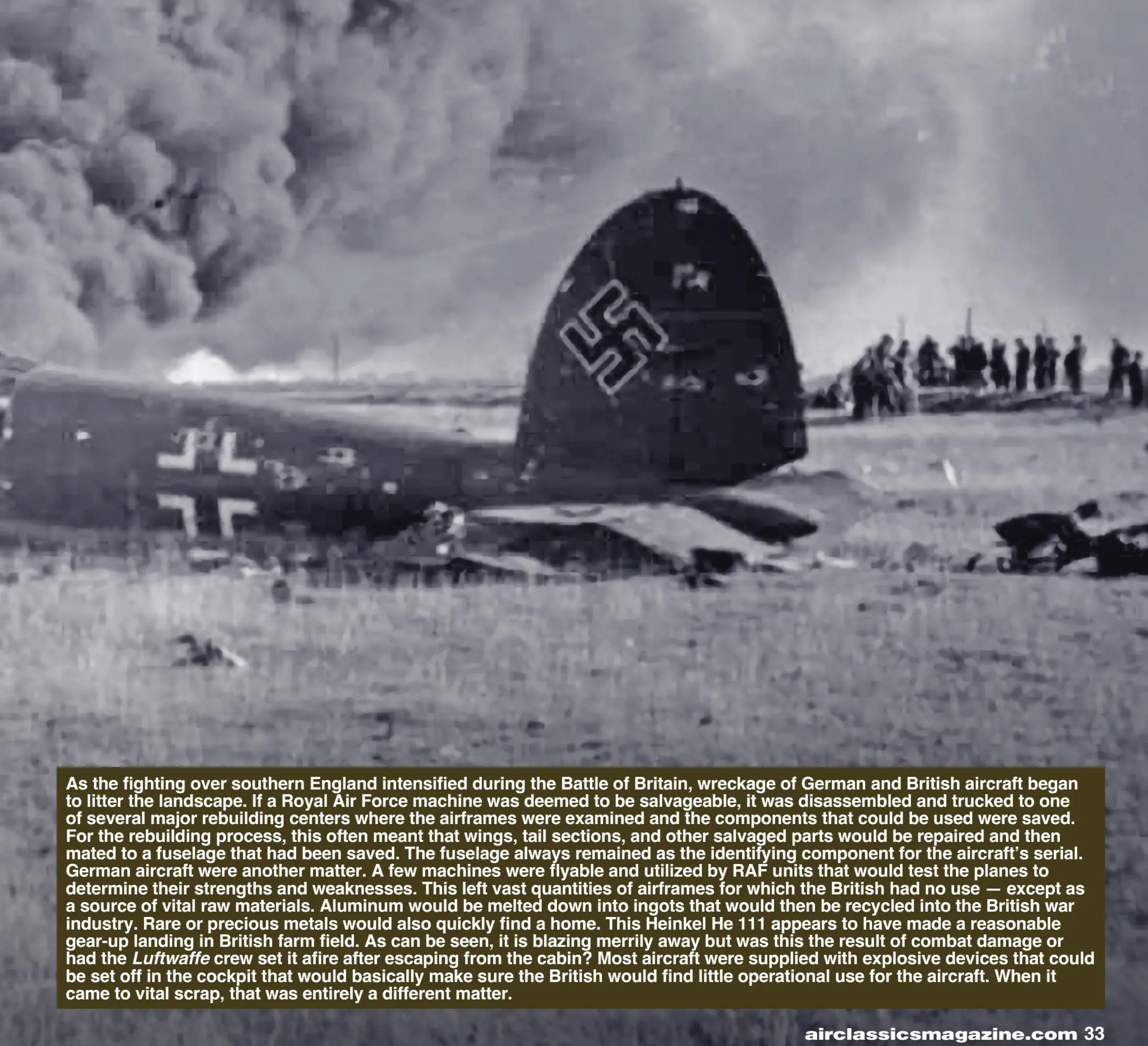
If *Luftwaffe* pilots had any choice in the matter, then Britain's many farm fields made ideal areas where they could belly-land their battle-damaged aircraft. These two young English farm girls appear to be intently examining a booklet from a Heinkel He 111 that came down on their parents' farm. Note how the vertical fin is riddled by fire from .303-caliber machine gun fire — a not particularly effective aerial weapon but enough to bring the Heinkel down.



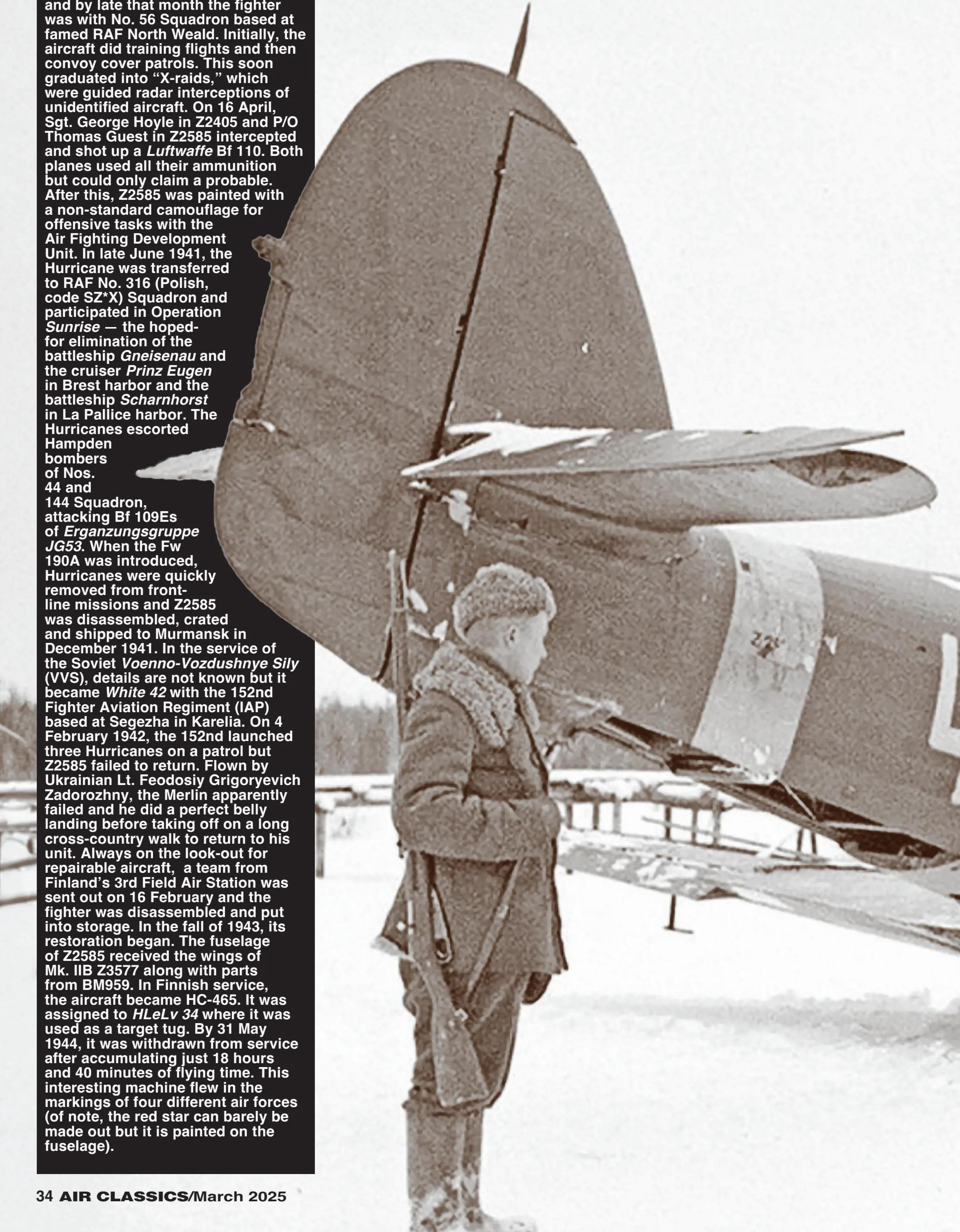
The British established a semi-secret depot at Elham in Kent where crashed *Luftwaffe* aircraft were hauled and deposited. At this point, the planes would be checked over and anything useful removed while the armament would also be stripped and sent to another location. The stripped airframes would then be moved to RAF Faygate for further processing. Then it would be off to the Northern Aluminum Company at Banbury where they would be melted down into ingots.



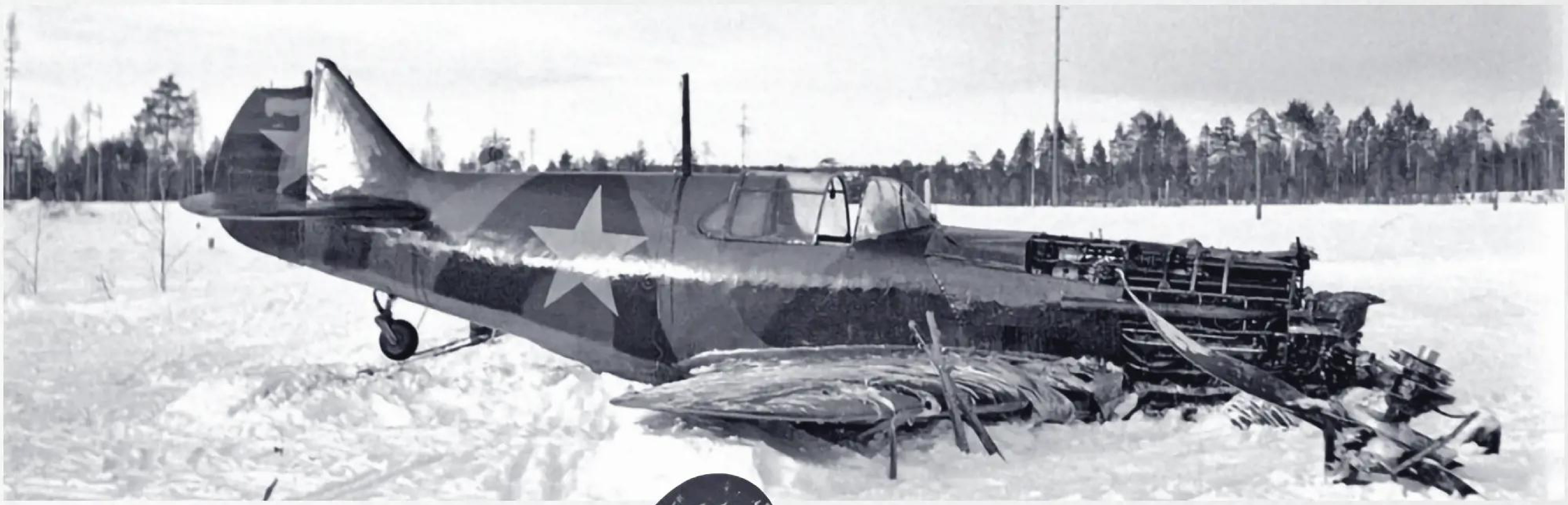
The fuselage of this Dorner Do 17 from *8/KG77* was absolutely riddled with .303-caliber hits before it crashed into a hop garden between Beech Farm and Sheephurst Farm near Paddock Wood in Kent. The plane fell victim to Hurricanes from No. 32 Squadron. It was one of the earliest *Luftwaffe* crashes in Kent and it was recovered by the men of 49 Maintenance Unit from RAF Faygate. This gave them the practice needed for the many other aircraft they would eventually recover and transport.



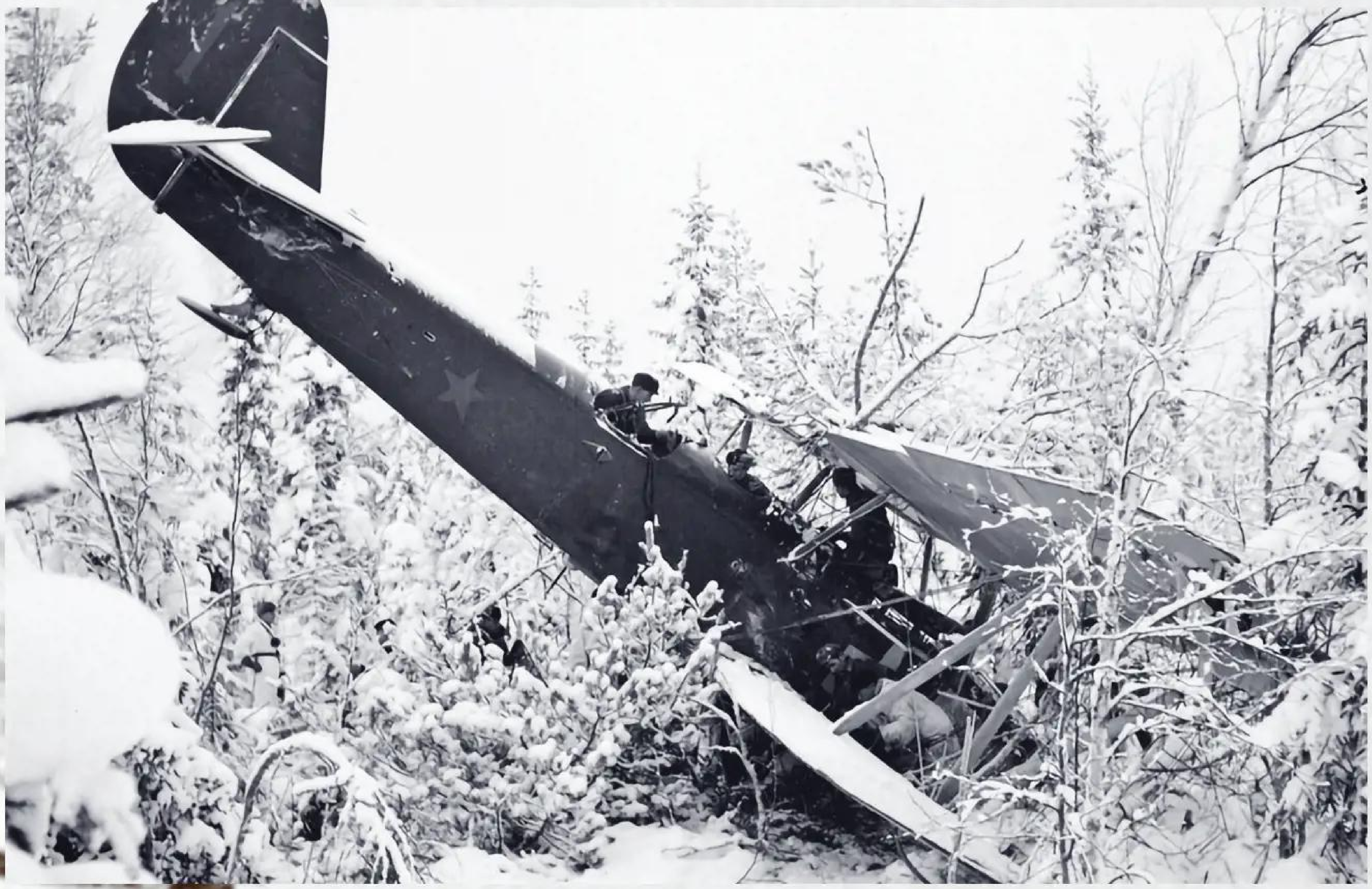
As the fighting over southern England intensified during the Battle of Britain, wreckage of German and British aircraft began to litter the landscape. If a Royal Air Force machine was deemed to be salvageable, it was disassembled and trucked to one of several major rebuilding centers where the airframes were examined and the components that could be used were saved. For the rebuilding process, this often meant that wings, tail sections, and other salvaged parts would be repaired and then mated to a fuselage that had been saved. The fuselage always remained as the identifying component for the aircraft's serial. German aircraft were another matter. A few machines were flyable and utilized by RAF units that would test the planes to determine their strengths and weaknesses. This left vast quantities of airframes for which the British had no use — except as a source of vital raw materials. Aluminum would be melted down into ingots that would then be recycled into the British war industry. Rare or precious metals would also quickly find a home. This Heinkel He 111 appears to have made a reasonable gear-up landing in British farm field. As can be seen, it is blazing merrily away but was this the result of combat damage or had the *Luftwaffe* crew set it afire after escaping from the cabin? Most aircraft were supplied with explosive devices that could be set off in the cockpit that would basically make sure the British would find little operational use for the aircraft. When it came to vital scrap, that was entirely a different matter.



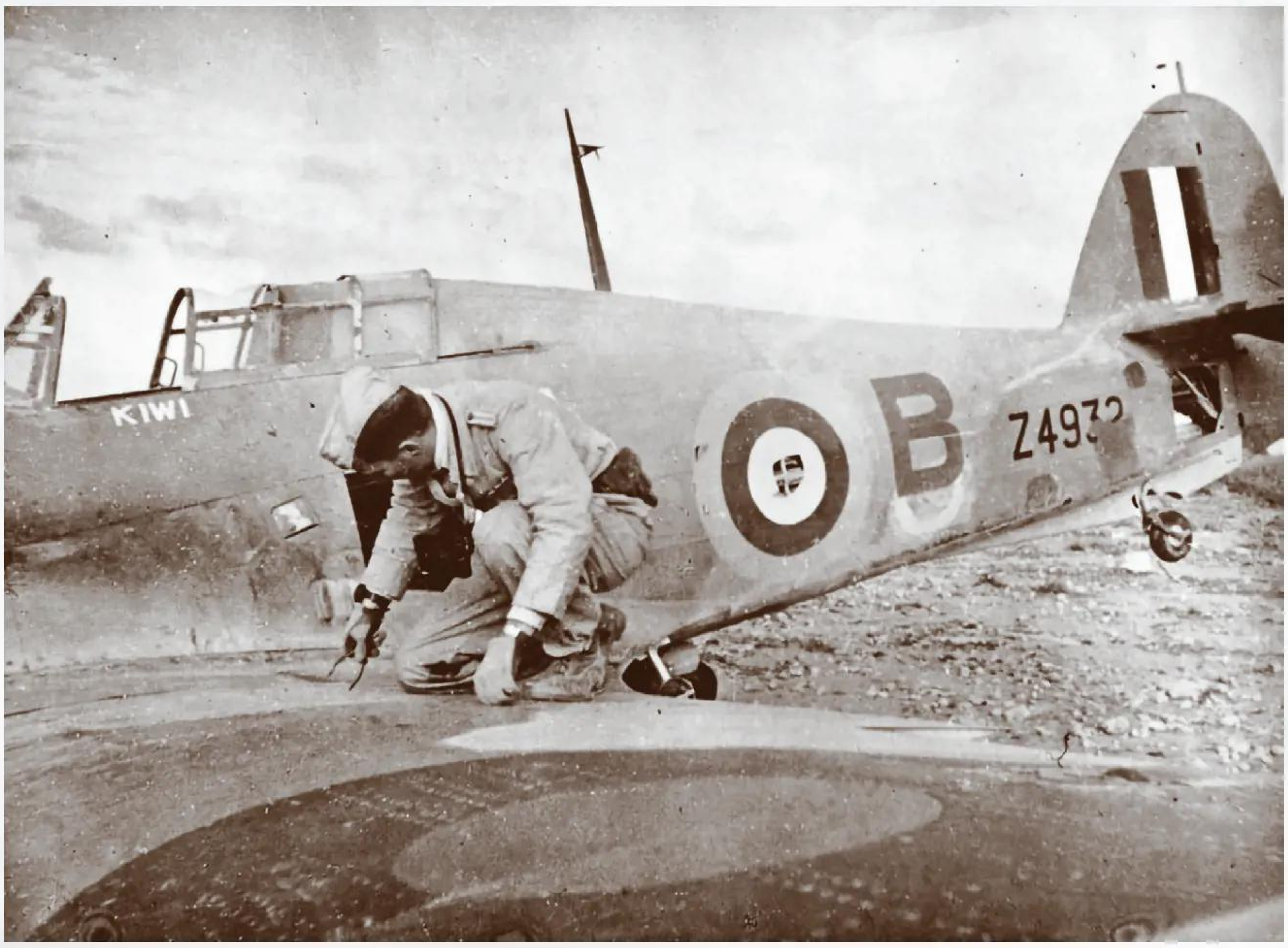
Hawker Hurricane Mk. II Z2585 was built at the company's Kingston factory during early February 1941 and by late that month the fighter was with No. 56 Squadron based at famed RAF North Weald. Initially, the aircraft did training flights and then convoy cover patrols. This soon graduated into "X-raids," which were guided radar interceptions of unidentified aircraft. On 16 April, Sgt. George Hoyle in Z2405 and P/O Thomas Guest in Z2585 intercepted and shot up a *Luftwaffe* Bf 110. Both planes used all their ammunition but could only claim a probable. After this, Z2585 was painted with a non-standard camouflage for offensive tasks with the Air Fighting Development Unit. In late June 1941, the Hurricane was transferred to RAF No. 316 (Polish, code SZ*X) Squadron and participated in Operation *Sunrise* — the hoped-for elimination of the battleship *Gneisenau* and the cruiser *Prinz Eugen* in Brest harbor and the battleship *Scharnhorst* in La Pallice harbor. The Hurricanes escorted Hampden bombers of Nos. 44 and 144 Squadron, attacking Bf 109Es of *Erganzungsgruppe JG53*. When the Fw 190A was introduced, Hurricanes were quickly removed from front-line missions and Z2585 was disassembled, crated and shipped to Murmansk in December 1941. In the service of the Soviet *Voenno-Vozdushnye Sily* (VVS), details are not known but it became *White 42* with the 152nd Fighter Aviation Regiment (IAP) based at Segezha in Karelia. On 4 February 1942, the 152nd launched three Hurricanes on a patrol but Z2585 failed to return. Flown by Ukrainian Lt. Feodosiy Grigoryevich Zadorozhny, the Merlin apparently failed and he did a perfect belly landing before taking off on a long cross-country walk to return to his unit. Always on the look-out for repairable aircraft, a team from Finland's 3rd Field Air Station was sent out on 16 February and the fighter was disassembled and put into storage. In the fall of 1943, its restoration began. The fuselage of Z2585 received the wings of Mk. IIB Z3577 along with parts from BM959. In Finnish service, the aircraft became HC-465. It was assigned to *HLeLv 34* where it was used as a target tug. By 31 May 1944, it was withdrawn from service after accumulating just 18 hours and 40 minutes of flying time. This interesting machine flew in the markings of four different air forces (of note, the red star can barely be made out but it is painted on the fuselage).



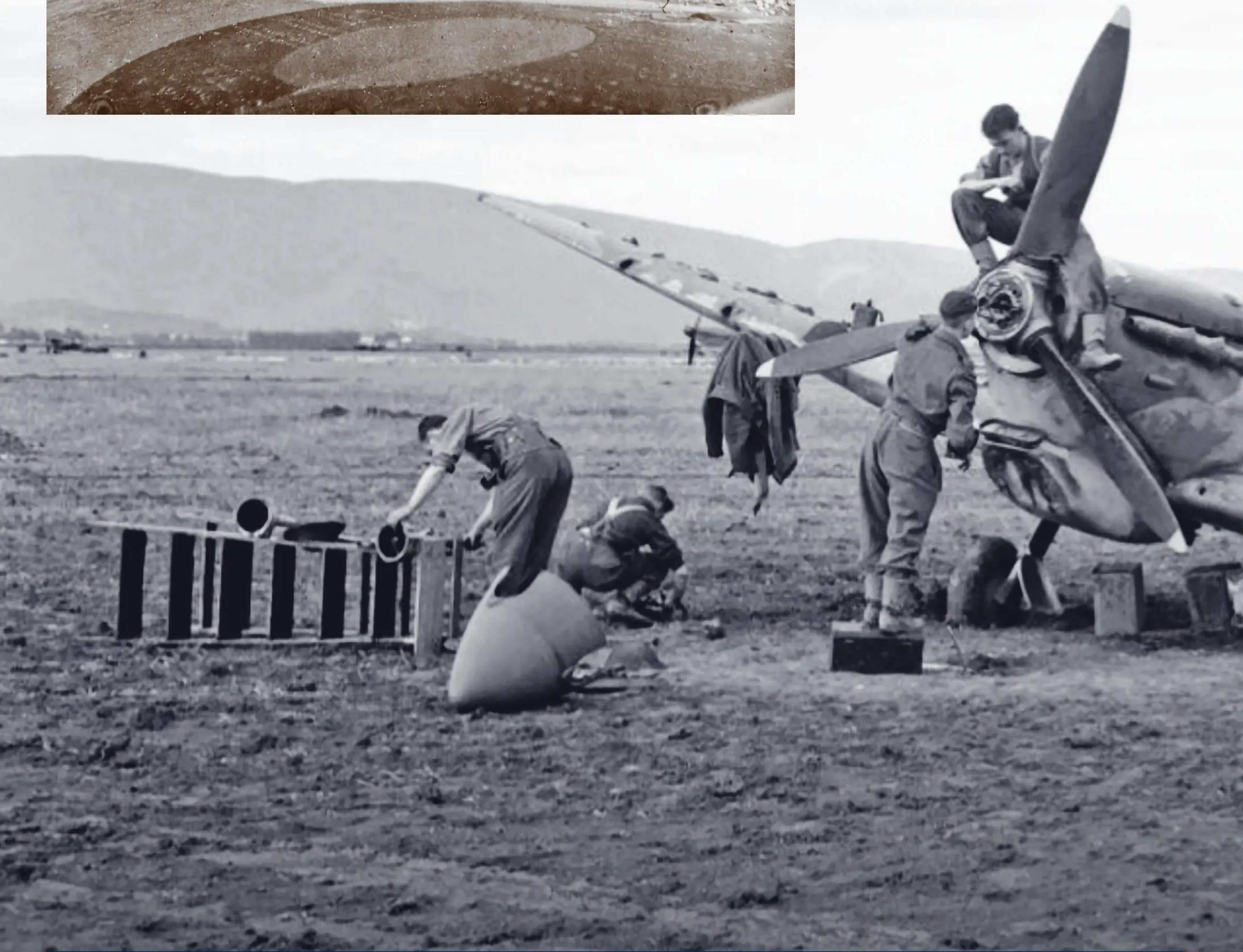
On 6 March 1942, the pilot of this Soviet LaGG-3 of the 524th Fighter Regiment ran into Finnish fighters and came out on the losing end. However, the pilot managed to make a belly-landing in Soviet territory and lived to fight another day. The LaGG-3 was disliked by most pilots since the plane's performance was worse than the enemy's Bf 109F. Built of resin-impregnated plywood, pilots called the plane *lakirovanny Garantirovanny grob* which meant "varnished guaranteed coffin." It is interesting to note that the aircraft is finished in gloss paint.



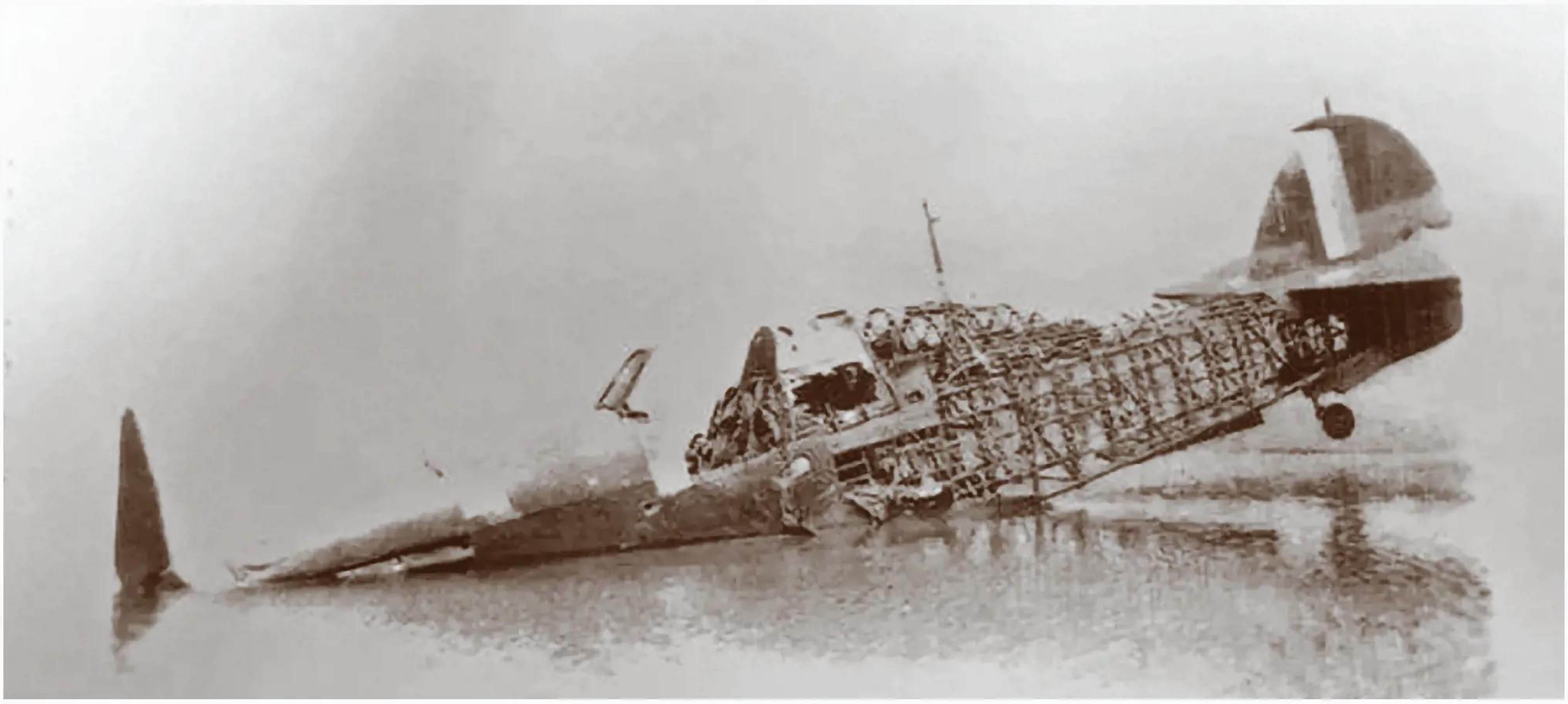
This Soviet Polikarpov Po 2 was probably flying a night harassment mission over Finland when it was downed during the Winter War. The primary trainer would carry small bombs that the crew would drop near Finnish fortifications with the hope of keeping the troops from sleeping.



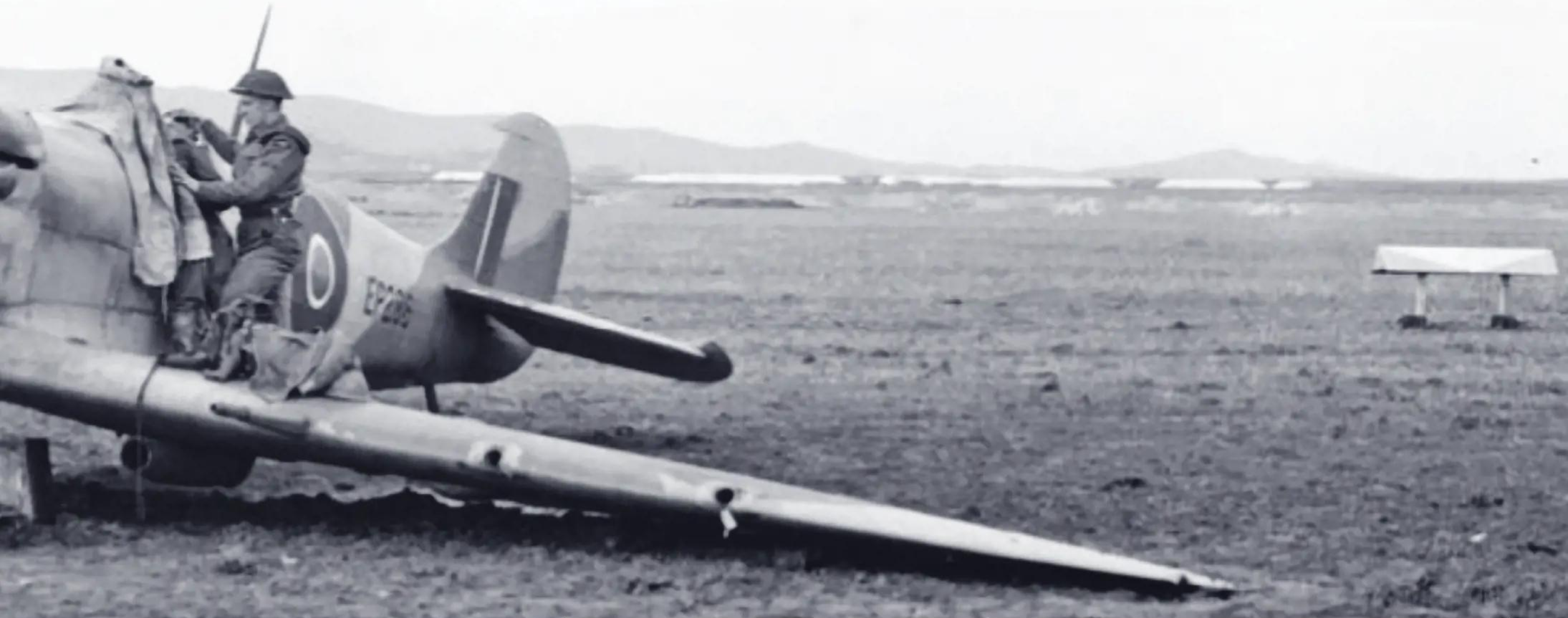
A *Luftwaffe* officer examines Hawker Mk. I/Trop Hurricane Z4932 to see if the aircraft could be made airworthy. On 25 January 1942, the fighter was shot down by Otto Schutz of *4./JG27*. Records from this time period of the war are sketchy at best, but it seems that the plane had been assigned to the Royal Navy Fighter Squadron (RNFS) based at Landing Ground 123 in Maddelena, Libya, and one source states that it was being flown Sub. Lt. Michael F. Fell when it went down three miles east of Martuba and was written off. The other source states it was shot down, which of course could mean engine failure! Fell would go on to become Vice Admiral Sir Michael F. Fell and would command carriers during WWII and the Korea War. Note the name *KIWI* under the canopy.

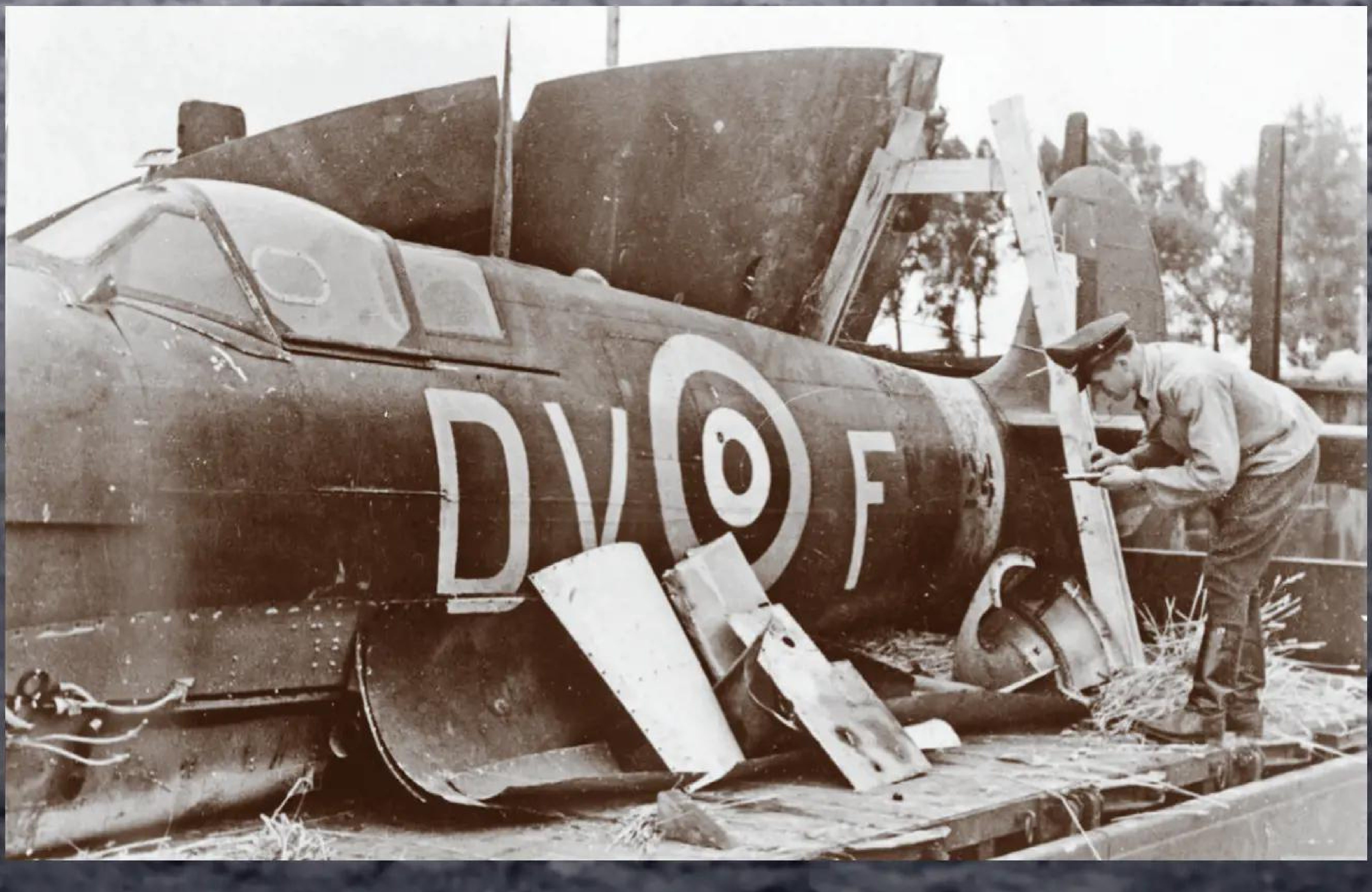


This doesn't look like fun. Desperate to get aircraft to the Middle East, a number of crated Supermarine Spitfire Mk. VBs were shipped to Gibraltar where they were quickly assembled by a Special Erection Party (SEP) and soldiers from the 2nd Battalion of the Sommerset Light Infantry, test flown, and then sent off to their combat destinations. Spitfire EP286 arrived at Gibraltar on 27 September 1942 (as part of 20 fighters) and took part in the defense of Malta with No. 1435 Flight. The aircraft then took part in Operation *Torch*. Landing on rough ground at Bone, Algeria, the left main gear leg failed and the aircraft went up on its nose. Since fighters were in high demand, a crew from No. 3203 Servicing Commando was sent to the scene and they went to work to get the plane back in the air with absolutely minimal equipment. A new prop was installed (note that the cowling for the extended oil tank is damaged but the plane could probably be flown away without this being repaired). All the fabric patches covering the guns have been blown off, indicating the aircraft had seen combat. Repaired, the Spitfire continued on to Italy where it served with No. 208 Squadron. With the end of RAF service, EP286 was transferred to France's *Armee de l'Air* where it served for a couple more years.

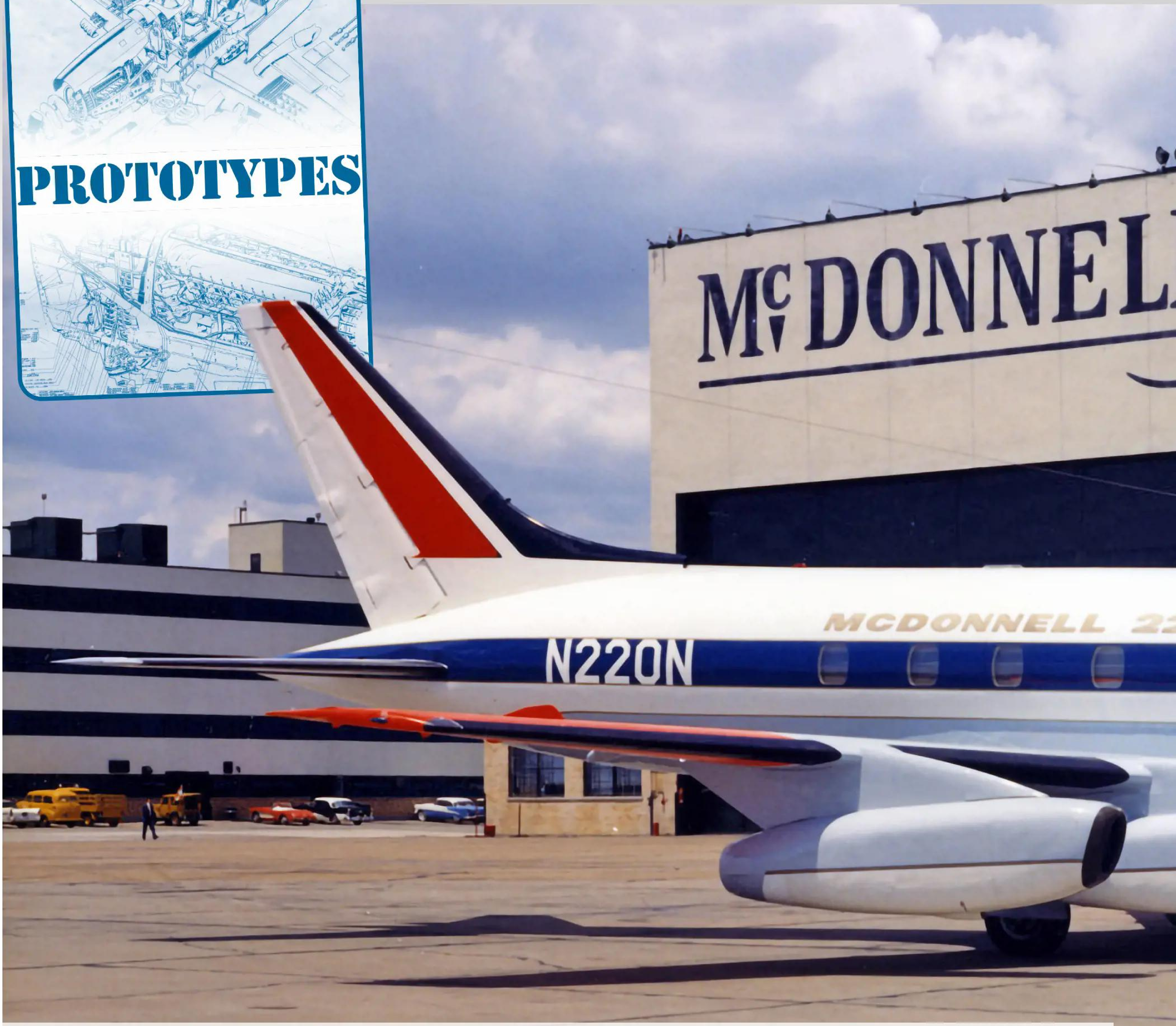


With much of its fabric missing — probably due to Germans looking for something to send home — this unidentified Hawker Mk. I Hurricane sits on a Dunkirk beach following the evacuation of the British Expeditionary Force.





A German makes notes regarding Supermarine Spitfire Mk. VB W3824/ DV*F prior to the aircraft being shipped to Germany. On 27 September 1941, the fighter was being flown by Sgt. I.A. Spence-Ross when he encountered *Luftwaffe* Fw 190As near Abbeyville, France. It appears that the coolant system was damaged and the pilot made a belly-landing with minimal damage. However, he was quickly made a POW. It would certainly seem that this aircraft could have flown again with the *Luftwaffe* but we could not find a record of that happening. AC



FAILED PHOENIX

NEVER HAVING BUILT A CIVILIAN AIRCRAFT, WAS THE McDONNELL MODEL 119A/220 CREATED FOR A MARKET THAT SIMPLY DID NOT EXIST?

BY STEVE WOLFF

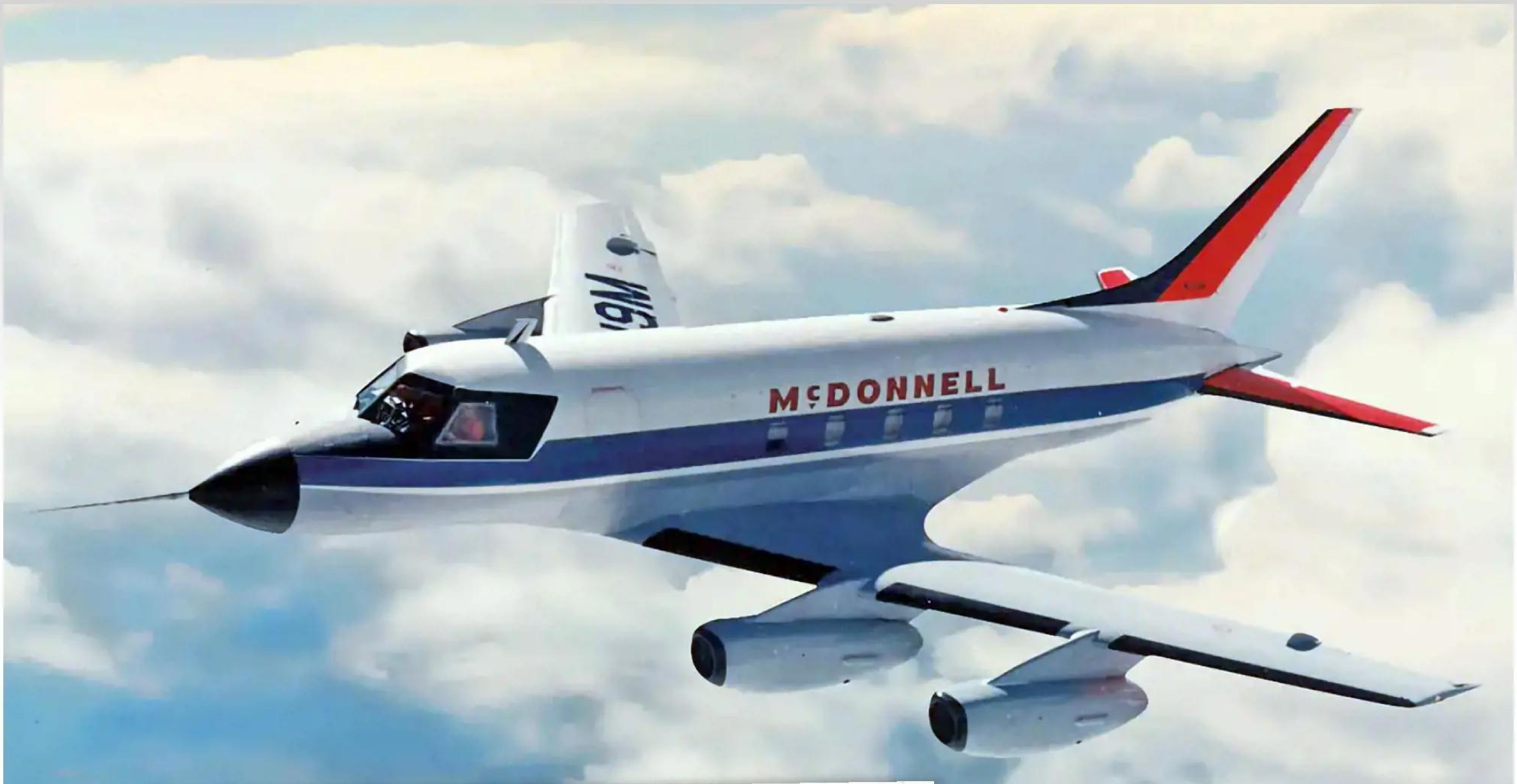
The refinished jet as the McDonnell Model 220 N220N in front of the company hangar at St. Louis during July 1960. The plane flew with Westinghouse J34s but these were not ideal powerplants and, if orders had come in, they would have been replaced with Pratt & Whitney JT12 engines (which were actually specified with the design but not available by the time the aircraft was completed) or other more modern engines.

L Aircraft Corporation
20

During 1953, the National Business Aircraft Association (NBAA) expressed a desire to aircraft manufacturers for a dedicated corporate aircraft to replace aging civil and surplus military conversions then in use. Specifications proposed were: Twin-engine configuration with a speed of 300-mph, price of $200,000 with a pressurized cabin, and a 1000-mile range. North American Aviation, eager to capitalize on a potentially new market, had already began design studies and sales analysis for a small twin turbojet design to fulfill the 1952 needs for civil and military applications.

However, it was not until early 1956 that a definite proposal for business class aircraft materialized with the announcement of that the USAF had publicly declared a need for a small jet transport. The Air Research and Development Command stated in a General Operating Requirement that the USAF desired an aircraft with the capability of carrying six to eight passengers some 1000 miles or better at a speed of 400 knots or better.

During August 1956, Maj. Gen. David H. Baker, director of procurement and production of the USAF's Air Material Command wrote to 28 aircraft manufacturers to consider development of small and medium jet trainer/transports with potential sales of 1200 to 1800 aircraft. The USAF expected to pay



When it first flew, the Model 119A was like nothing else in the sky. Pan American and McDonnell drew up and agreement for a five-year lease of 170 Model 119As. By this time, the prototype had undertaken 105 flights totaling 210 hours.

between $200,000 and $400,000 per plane. Because of the USAF having to use its own funds for the development of advanced weapons systems and improving combat capabilities, manufacturers would need to undertake prototype development with their own funds. The construction costs of prototypes by manufacturers would be more than offset by sales to military and commercial customers. Manufacturers had 60 days to respond to the proposal.

The categories of aircraft to be fulfilled were: Utility Cargo Experimental (UCX) and Utility Trainer Experimental (UTX). Those immediately responding were: Fairchild with their M-185F (UCX), North American with the NA-246 (UTX), Lockheed with the CL-329 (UCX), Northrop, Convair, Cessna with the Model 407 (UTX), Beech with the SM-760 (UTX), and Temco with its Model 51 (UTX). All designs had to be CAB Part O49b compliant.

The dark horse entry of the UCX competition along with Lockheed's CL-239 was the McDonnell M-119A — both

March 2, 1959

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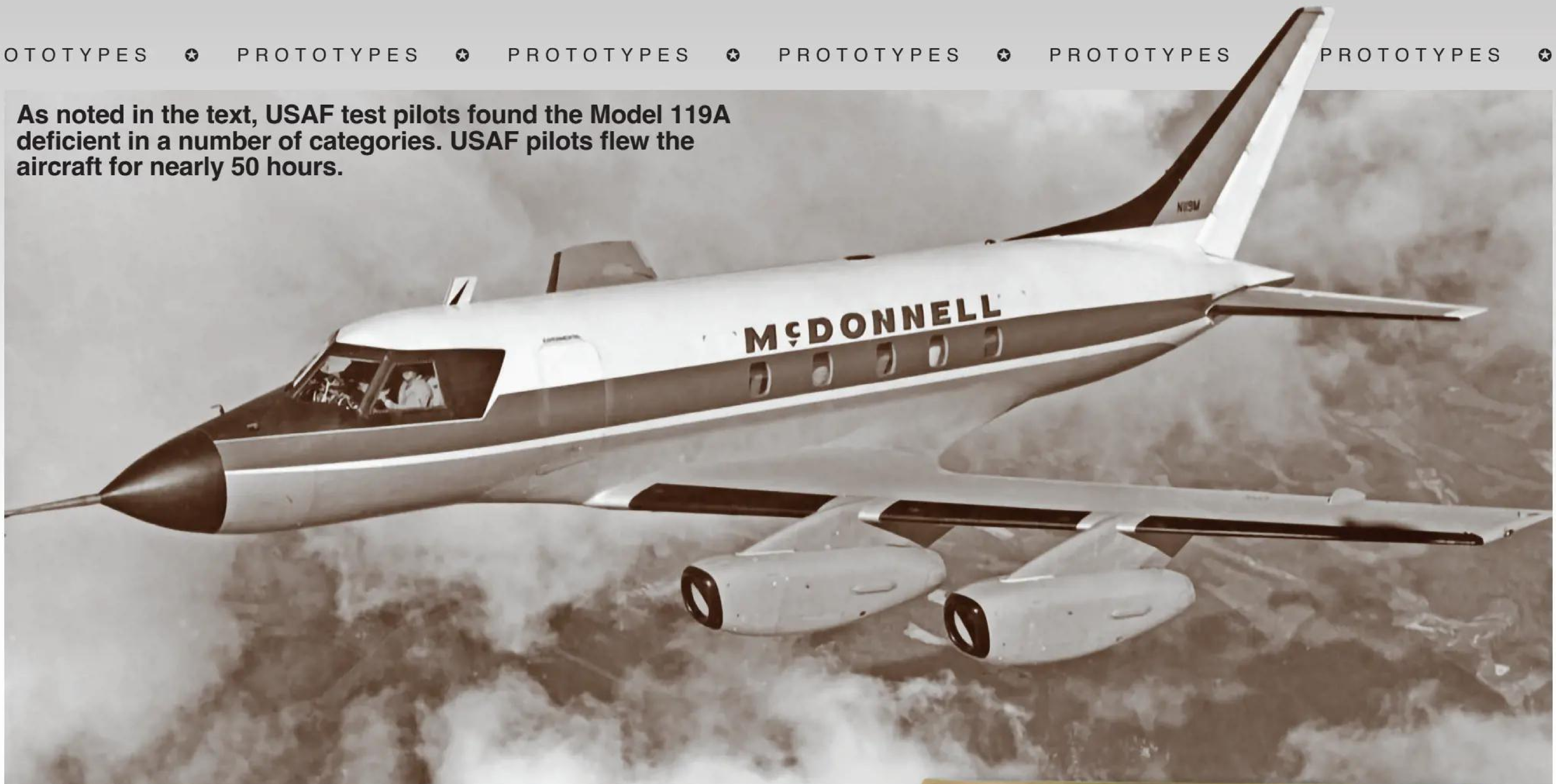
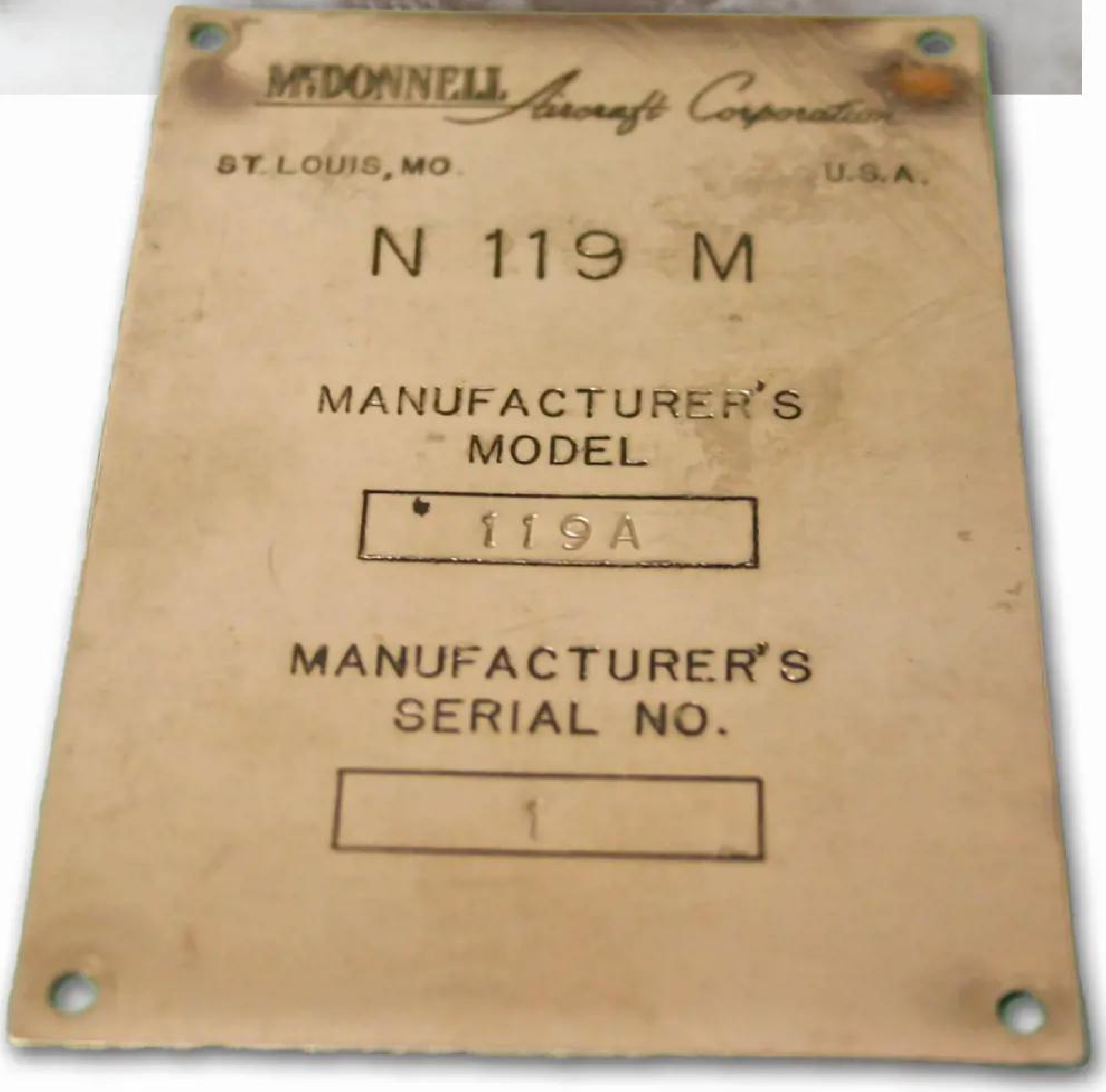
Report on Nuclear Ramjet Development

The aircraft made an appearance on the cover on the 2 March 1959 issue of *Aviation Week*. McDonnell concluded that a profit could not be made with the 170 leased aircraft for Pan American and the deal came to an end. Pan Am would go on to acquire the Dassault Falcon.



As noted in the text, USAF test pilots found the Model 119A deficient in a number of categories. USAF pilots flew the aircraft for nearly 50 hours.



Original data plate for the Model 119A. A new plate was installed for the Model 220. Some sources have stated that the new designation came about because it celebrated McDonnell's 20 years as an aircraft builder.

aimed initially at the corporate business market. North American's NA-246 was unopposed in the UTX competition after competing designs were shown to be deficient in performance specifications. Fairchild's UCX proposal was shelved after a lack of demand and choose instead to concentrate on the (Fokker) F-27.

With 90% of the company's current business in the construction of fighter aircraft, company president James S. McDonnell recognized that he would have to begin to diversify in order to remain competitive. Furthermore, there was less red tape and potential for higher profit margins in business plane development.

Design began in 1956 with the dual objectives of meeting the Civil Aeronautic Regulations and also the USAF's UCX General Design Specifications (GDS). Transport division manager Robert Hage (former Boeing project engineer-systems on the 707), headed the UCX design team that included Ralph Harmon, engineering manager, who had 22 years of experience with transport aircraft; Fred Steele, project engineer with 14 years of transport aviation experience; and Gil Fleming, manufacturing manager with 25 years of experience. Later, Hage would go on to manage the DC-10 program. An impressive group which showed McDonnell's commitment to winning the UCX competition, however, the focus was primarily directed towards corporate customers. By 1957, the only manufacturers remaining in the UCX competition were Lockheed with its Model CL-329 and McDonnell with the Model 119A.

The Model 119A mock-up was unveiled in July 1957 and later in October, the USAF made an informal inspection. Two months later, the CL-329 made its first flight powered by two Bristol Siddeley Orpheus engines, giving Lockheed an 18-month lead in the UCX competition. McDonnell formed a commercial transport division in late 1958 with a professional sales staff with Hage as general manager.

The fuselage of the Model 119A was conventionally constructed semi-monocoque with a fail-safe design utilizing multiple load paths that promoted structural safety. Formers were spaced 20-inches apart and stringers six-inches apart with a crack-stopping design that halted cracks at the first piece of structure encountered. Cabin height was a generous 74-inches and could accommodate ten passengers plus a crew of two or 26 passengers in a high-density seating configuration.

Pressurization and air conditioning was provided from bleed air from each of the four engines. A maximum cabin differential of 8.9-inches gave an 8000-foot cabin at 44,000-feet. Cabin and cockpit environments could be controlled separately and were variable throughout a range of 60-degF to 90-degF. An external air connection plug-in was located on the right hand rear side of the fuselage for ground cooling.

A 3000-psi hydraulic system was powered by two engine-driven variable displacement pumps located on engines two and three. The output powered

McDONNELL
N119M

The only way the Model 119A/220 could have succeed was through a combination of large military and civilian orders and the type received neither. There was also a proposed turbofan variant that would have a projected top speed of 490-kts and a capability of operating from 5000-ft runways.

the landing gear, wing spoilers/speed brakes, wheel brakes, nosewheel steering, windscreen wipers, flaps, rudder, and elevator. System pressure was not affected by the failure of one pump. Pressure for the spoilers was reduced to 2000-psi to prevent overstressing the fin. Major components of the hydraulic system, filters, accumulator, and system reservoir were located in the aft equipment bay.

Flight controls were of conventional design connected by cables, push rods, and bell cranks. The rudder was hydraulically actuated by a power cylinder with a backup source of power (a motor-driven pump supplied by an independent reservoir) that automatically switched in the event of basic system pressure loss. If both systems failed, the power cylinder served as a mechanical link between the rudder pedals and rudder.

The spoilers activated when the ailerons were deflected more than 2-deg or when deployed as speed brakes. As speed brakes, the spoilers deflected to any position upward through a range of 0 to 60-degrees. Elevator control was through two sets of cables routed through an artificial feel system and a hydraulic power actuator. Travel was limited to 25-deg upward and 15-deg downward. Longitudinal trim (pitch) was provided by moving the stabilizer trim switches on the control yokes of the pilot and copilot and could be moved through a range of 12-deg. Actual positioning was through an irreversible screw jack operated by a trim motor and gear box located under the center console. In the event of a total electrical failure, the stabilizer could be positioned with a hand crank located on the left side of the center console.

SPECIFICATIONS McDONNELL MODEL 220

Span	57-ft 7.25-in
Length	66-ft 6-in
Height	23-ft 7.75-in
Wing Area	550-sq-ft
Empty Weight	23,213-lbs
Gross Weight	40,926-lbs
Max Weight	45,328-lbs
Max Speed	560-mph @ 38,000-ft
Cruise Speed	520-mi
Range	2340-mi
Ceiling	44,900-ft
Wing Loading	74.4-lbs/sq-ft
Thrust/Weight	3.4-lbs/lb-st
Powerplants	Westinghouse J34-WE-22/2980-lbs/st each

The aircraft's electrical system was powered by four engine-driven 27.5-volt DC generators mounted on the accessory drive pads powering the primary DC buss and protected by current limiters. One 24-volt, 36-ampere hour battery provided power to the DC busses when the generators were not operating or when ground power was not connected. AC power was provided by three 2500-volt-ampere inverters. The main inverter supplied all AC aircraft needs except windscreen heat. Inverter number two supplied power to the pilot's windscreen and inverter number three supplied power to the copilot's windscreen.

Fred Steele, original project engineer, related in 1982 that the plane used many off-the-shelf items such as nose gear components from the McDonnell F-101

Voodoo and Westinghouse J34s from other programs.

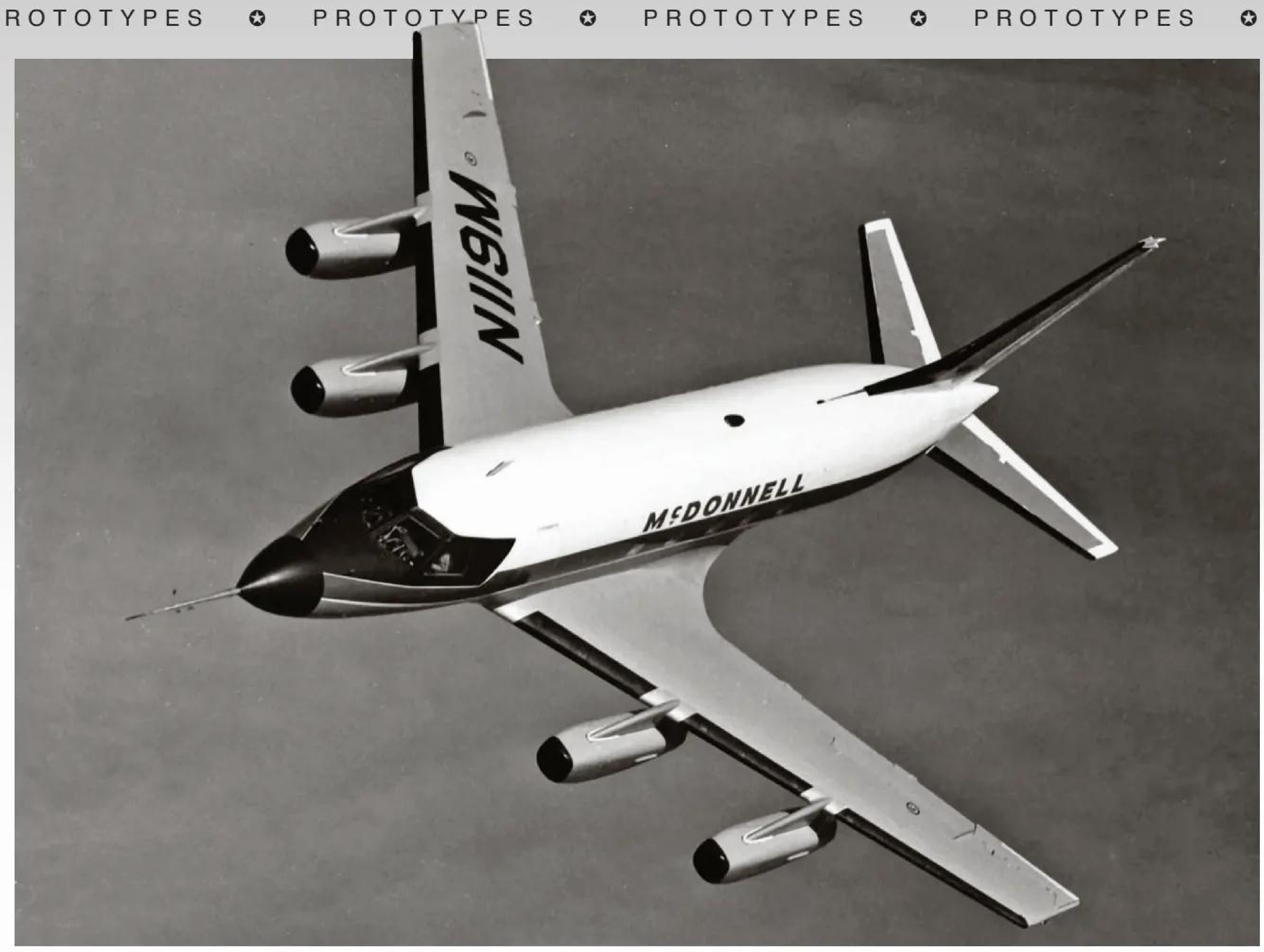
During March 1958, 45 members from the USAF's evaluation team arrived at the St. Louis factory for an official review and evaluation, which was apparently favorable. In late January 1959, Model 119A made its public debut amid much local media coverage. On 11 February, the 119A undertook its first maiden flight, which lasted 45 minutes with George Mills and F.H. Rogers at the controls. Local flights continued throughout the month for another nine hours with the interim Westinghouse J34 powerplants (although these engines were to be temporary, they were never replaced). By May 1959, the 119A was flown to Edwards AFB for flight test evaluation.

Nineteen flight comprising 44 hours and twelve minutes were flown at the Edwards Flight Test Center from 11 to 23 May 1959. The following summary is taken from the McDonnell Model 119A Air Force Flight Evaluation:

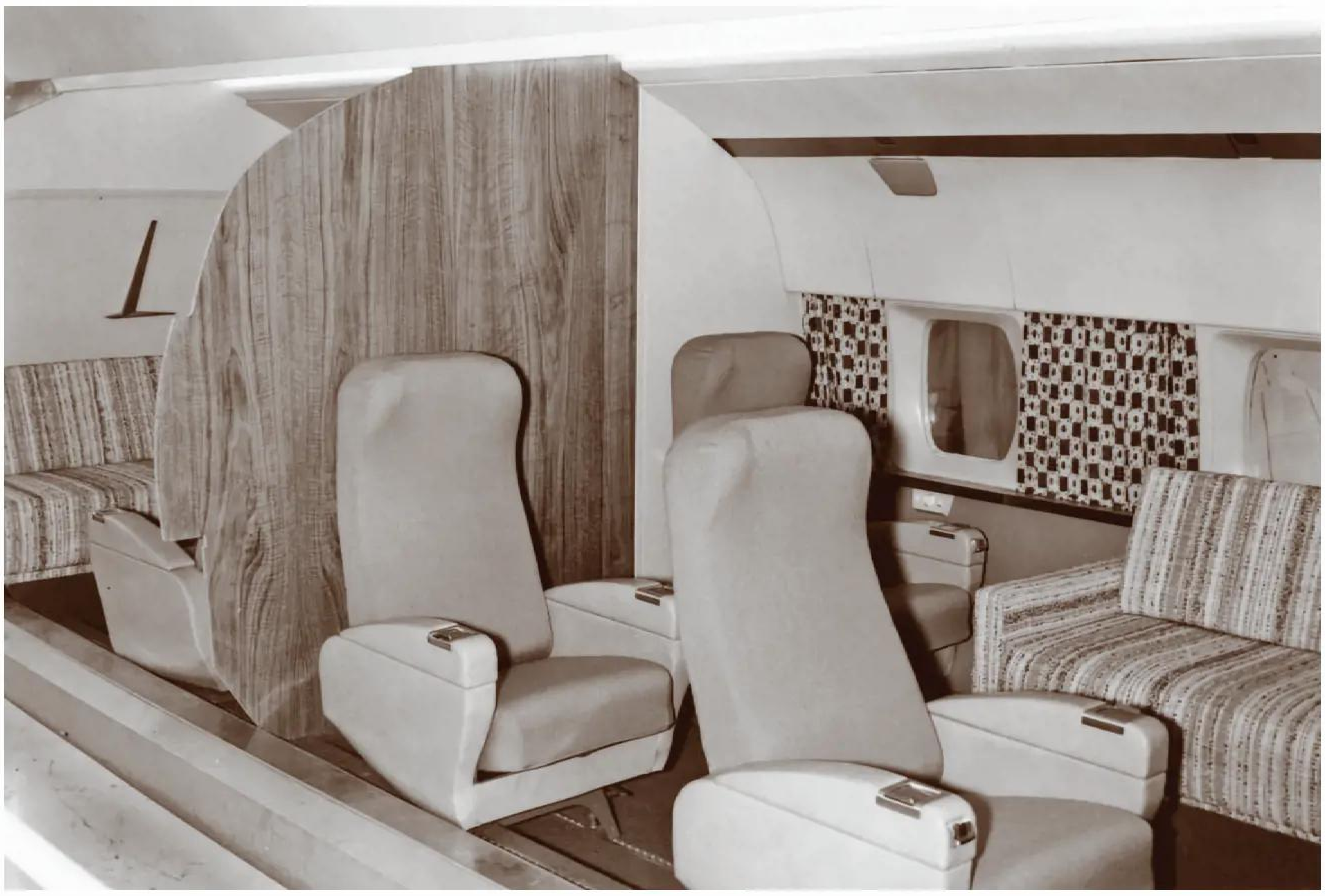
Although the Model 119A has speed and altitude capabilities above those of present operational USAF aircraft of its class, several deficiencies exist that make the airplane operationally unsuitable. Low elevator power and insufficient nose-up stabilizer trim limit the longitudinal controllability in the landing configuration at a forward center of gravity [CG]. The flight longitude maneuvering force gradients are unsatisfactory. Stall characteristics are good.

Lateral-directional damping with the yaw damper off meets the MIL-F-9785 [ASG] requirements, but is considered unsatisfactory; however, damping is excellent with the yaw damper mode of the autopilot engaged.

The prototype aircraft is equipped with a hydraulically-powered, irreversible type directional control system, which provides satisfactory rudder control during side-slips. This system allows for manual rudder control during side-slips. This system allows for manual rudder control when the power system fails. In this configuration, a rudder lock occurs. Rudder lock was exhibited at 4- to 6-deg of side-slip and can lead to exceeding the structural limitations



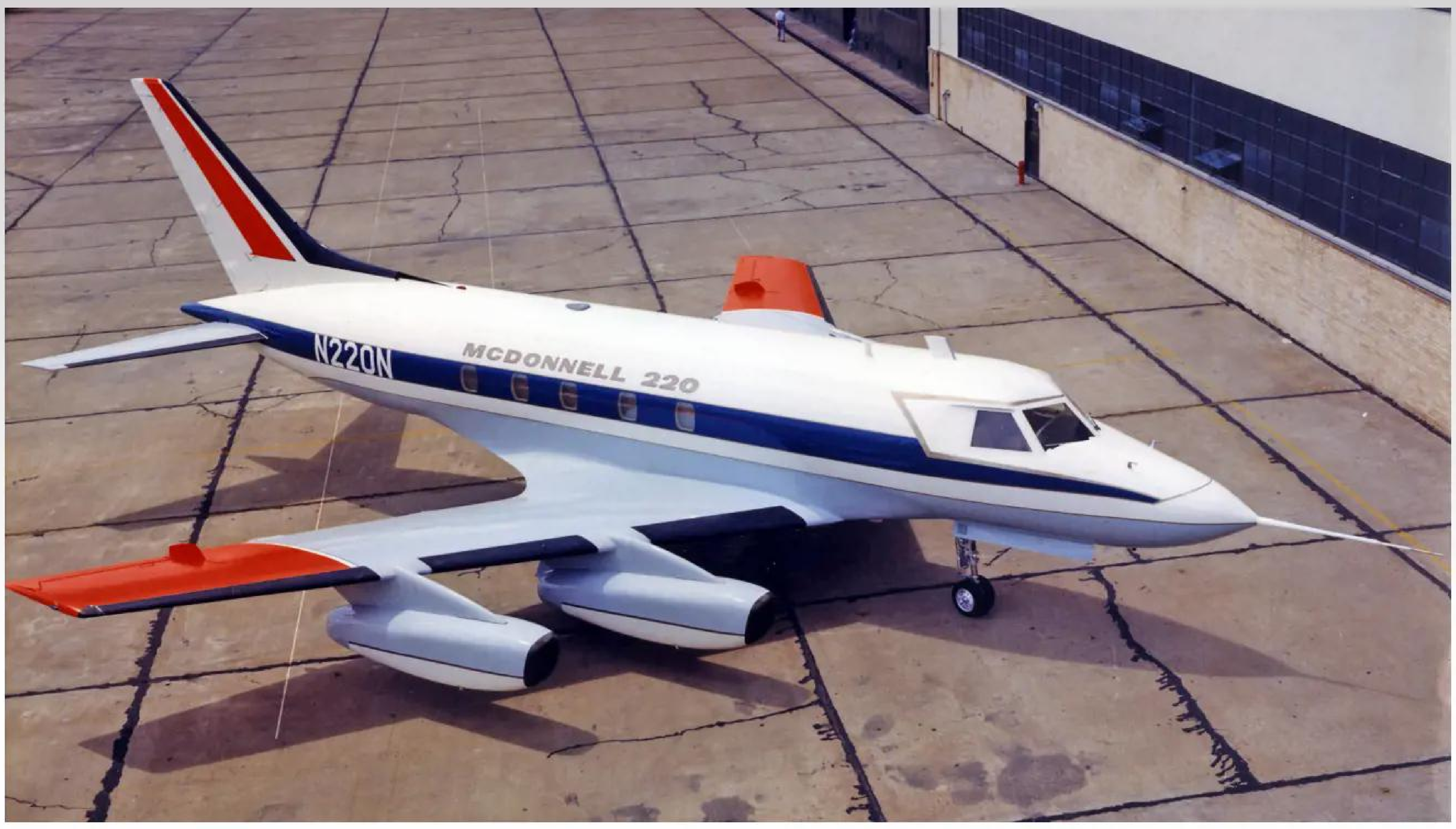
From this angle, it appears that the Model 119A was almost a miniaturized Boeing 707. There was concern about foreign object damage with the low-slung jet engines.



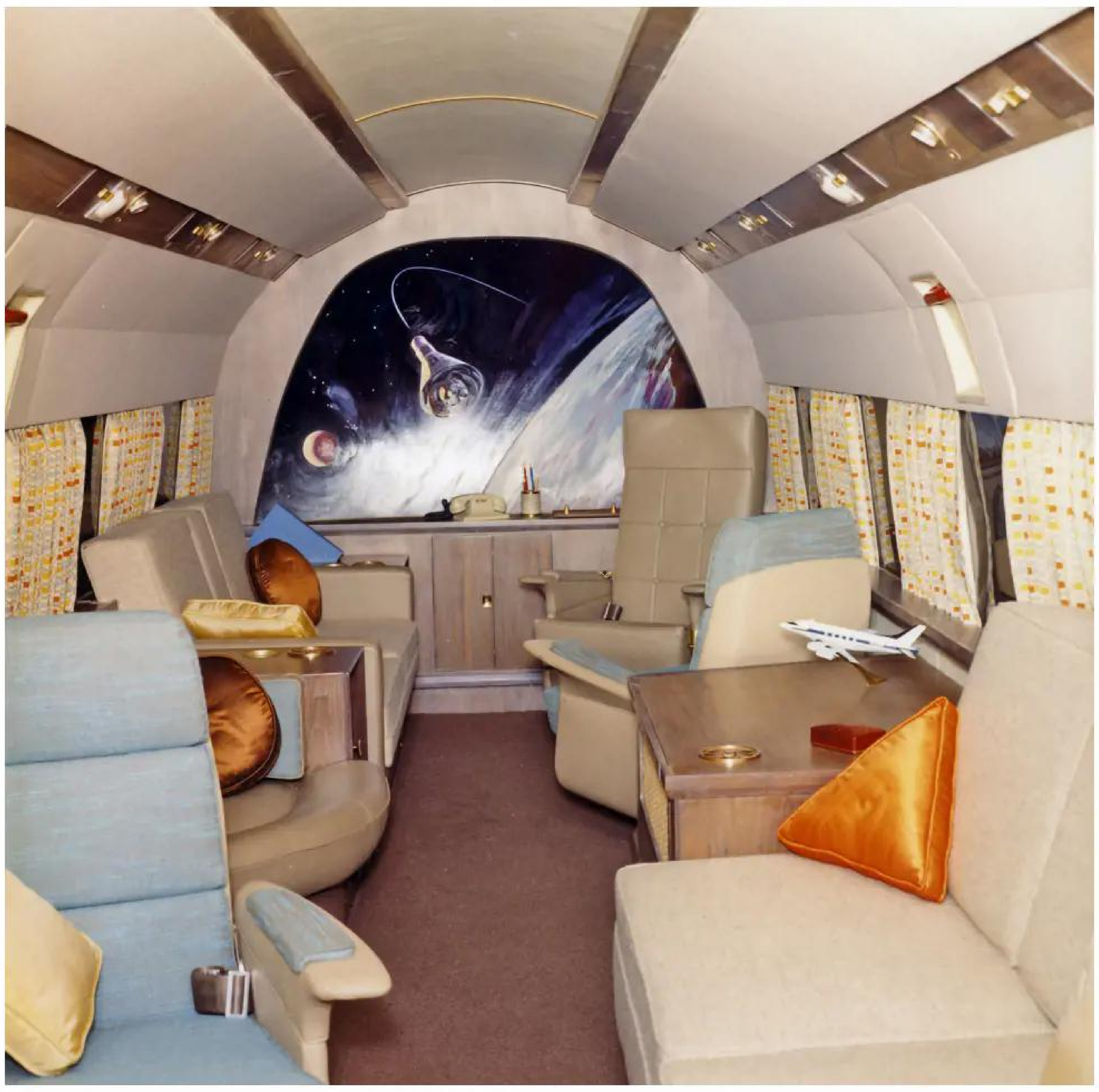
Mock-up for the Model 119A's interior configuration. Proposals included an 8/9 seat VIP interior and a high-density interior with 29 seats.

UNITED STATES OF AMERICA
12492

Lockheed JetStar was the closest rival to the Model 119A/220 but even with military and civil orders, it still lost money for Lockheed. This C-140 is preserved at the National Museum of the USAF and features the very attractive "Air Force One" paint scheme designed by Raymond Loewy.



Given the name Phoenix, the aircraft was briefly used as a VIP transport by McDonnell until the FAA stepped in.



The interior of the Model 220.

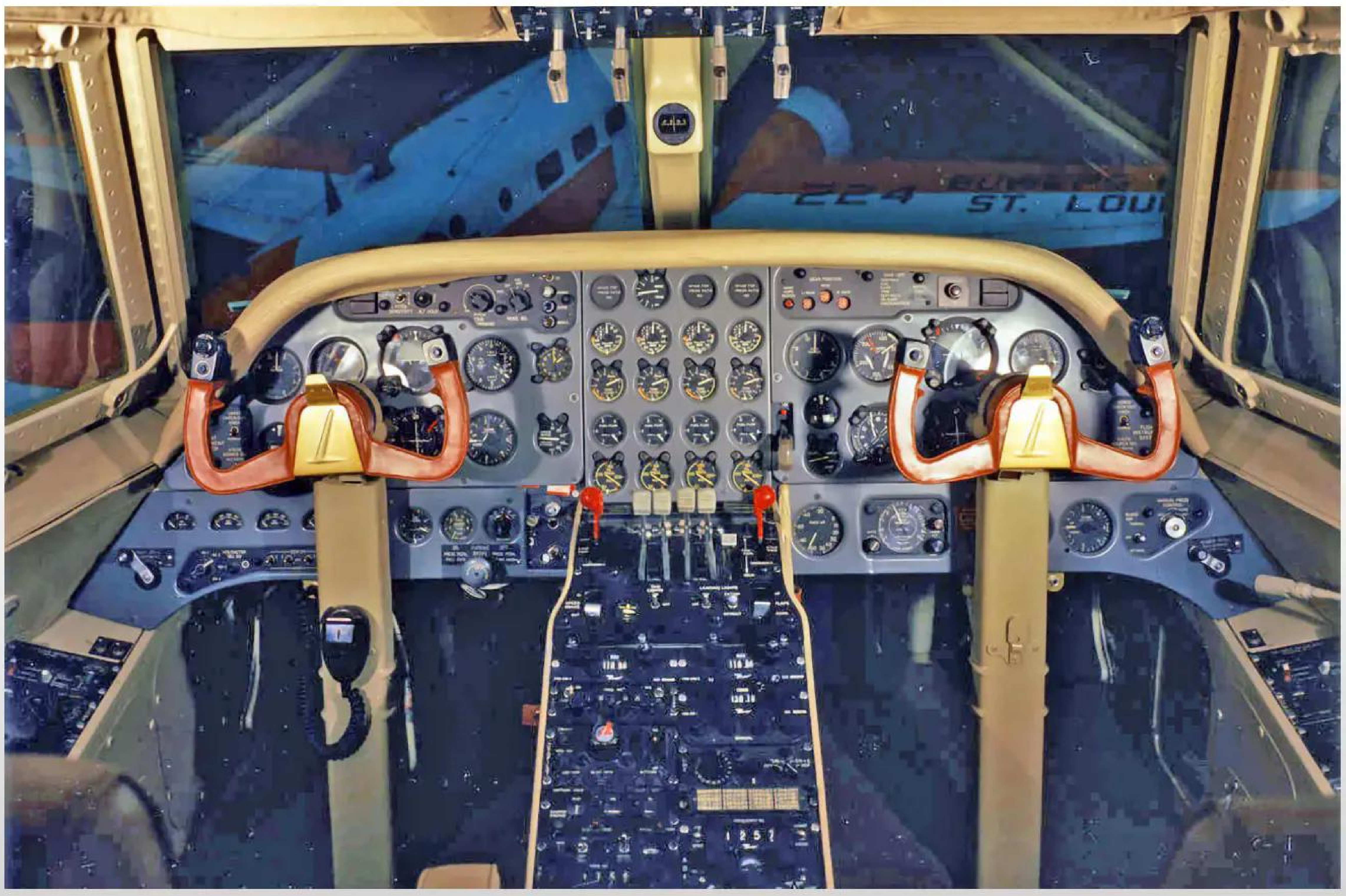
of the vertical tail. Directional controllability during asymmetric power conditions is good with the hydraulic power on.

Lateral control is good in terms of response and roll rates when the spoilers are operative; however, a spoiler's inoperative condition reduces the roll rate by approximately 50%. Insufficient aileron centering is apparent in rolling maneuvers where small and accurate inputs are required. Aileron inputs in excess of three-quarters deflection are force limited.

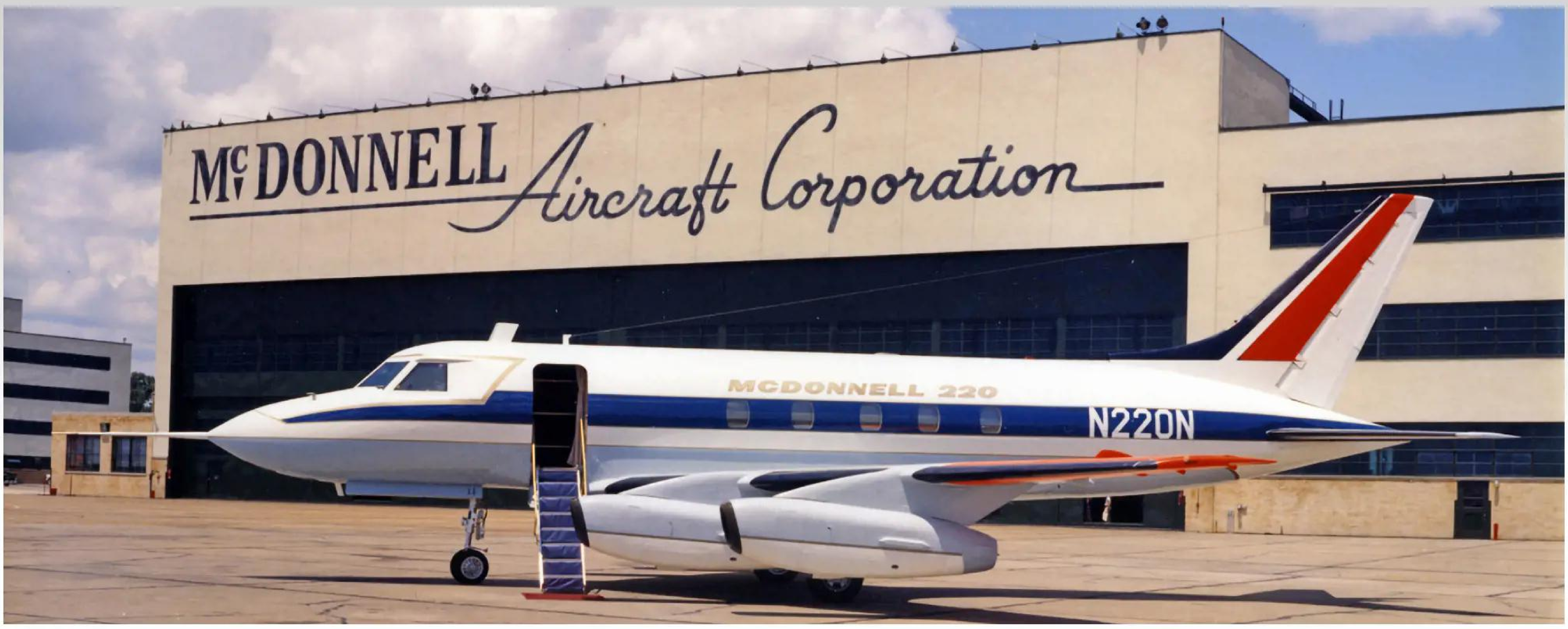
The aircraft does not meet the General Design Specification [GDS] with respect to range, cruise speed, and landing distance. It does meet the four and three engine service ceiling requirements. The Model 119A is capable of taking off in 4300-ft at a gross weight of.45,500-lbs under sea level conditions. The four-engine military rated power service ceiling is 34,100-ft. The no wind range of the aircraft at a cruise speed of .74 Mach is 1142 nautical miles, 358 miles less than the GDS requirement of 1500 miles. The range against a 70-kt headwind is 970-mi. Increasing the cruise speed to the GDS required .76 Mach number reduces the range by 15 miles. The maximum level flight speed at 35,000-ft altitude and 37,000-lbs gross weight is .82 Mach. The minimum landing distance over a 50-ft obstacle is 4930-ft with a ground roll of 2690-ft for a gross weight of 31,100-lbs. Descent performance at a gear placard speed of 285-kts IAS is satisfactory. Two and eight-tenths minutes are required to descend from 38,000-ft to 10,000-ft.

These were basically normal problems associated with a new aircraft design, none of which were insurmountable; however, the plane as presented to potential customers had some serious operational shortcomings:

- It was not certificated for known icing conditions because of the lack of engine inlet anti-ice. A proposal was made to use engine bleed air, but apparently not followed up.
- Although provided with nacelle blow-away-jets to protect engines from foreign objects, the nacelles were too close to the ground to prevent water ingestion. A likely occurrence when the nose gear impacted standing water on the runway during takeoff and landings.
- There was no provision to start each engine from the cockpit using a single point external electrical power source. Each engine had to be started separately by plugging the starting power source similar to a USAF MD-3 (1000 amps minimum) into the nacelle of the engine



The analog cockpit of the Model 220.



Even though it was test flown by numerous military and civilian pilots and displayed at major airshows, the Model 220 could not find a buyer. It is interesting to note some differences when viewing the pilot manuals for the 119A and the 220. Each manual has a three-view drawing of the aircraft with basic specifications. For the Model 220, the wing is 6-in longer while the wing tips are 2-in lower. The outboard nacelles are 2-in further out on the wing while the inboard and outboard nacelles are 1-in lower. Were these actual modifications made to the 220 or was the drawing of the 119A inaccurate?

to be started and then moved to the next engine and so on until all four were running.

- The aircraft was advertised as containing a reciprocating 42-hp 400-amp auxiliary power unit, but never installed — an anachronism in any event and incapable of starting an engine.

Additional features proposed by McDonnell but never implemented: Thrust reversers, dual wheeled main landing gear, and Pratt & Whitney JT12 turbojets.

Because of the failure of the corporate business aircraft community to define the operating parameters of speed, range, and size of military utility/corporate aircraft, it was left to the American miliary to issue General Operating Requirements (GOR) as guidelines. The military

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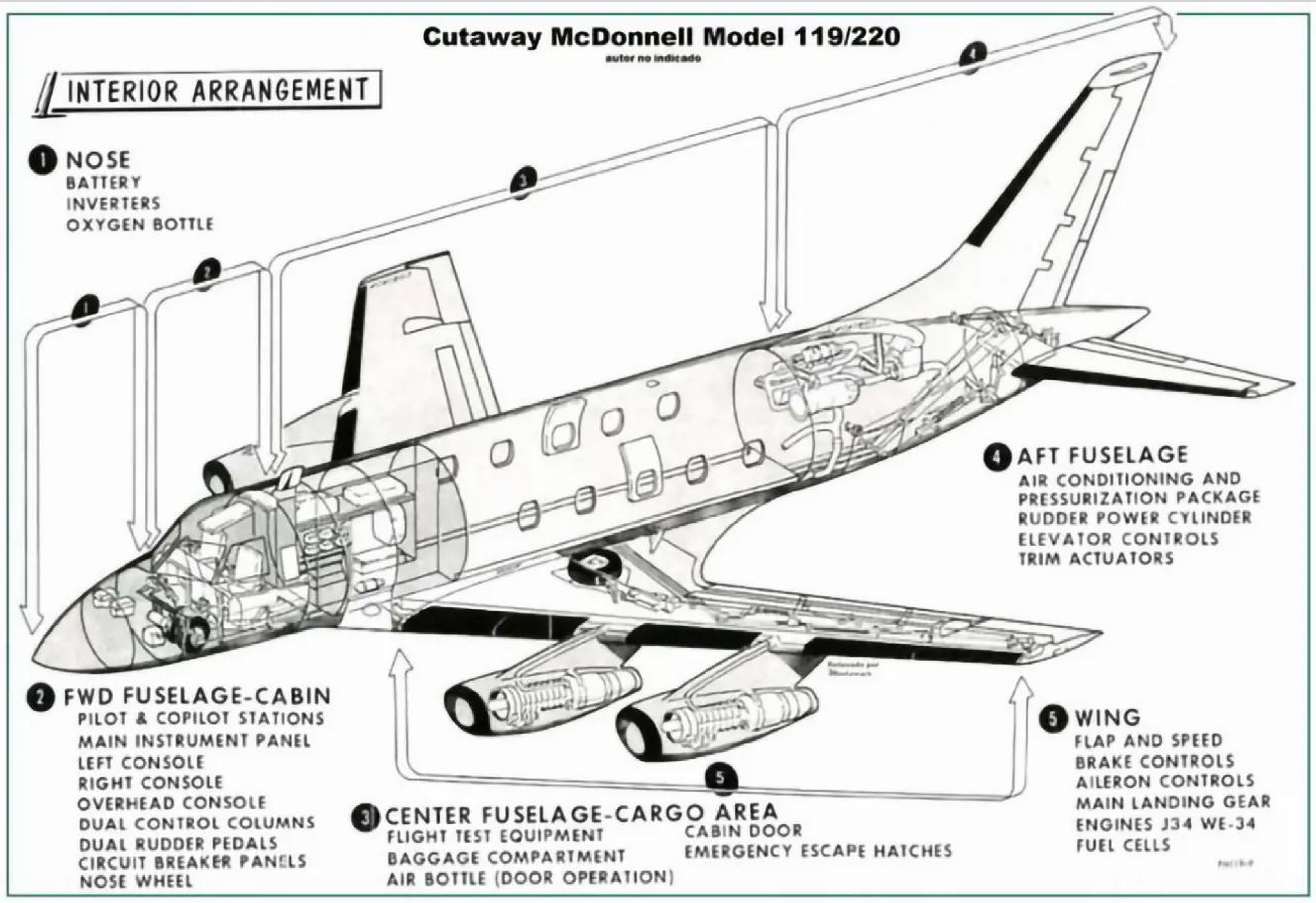

Cutaway McDonnell Model 119/220
autor no indicado
INTERIOR ARRANGEMENT
❶ NOSE
BATTERY
INVERTERS
OXYGEN BOTTLE
❷ FWD FUSELAGE-CABIN
PILOT & COPILOT STATIONS
MAIN INSTRUMENT PANEL
LEFT CONSOLE
RIGHT CONSOLE
OVERHEAD CONSOLE
DUAL CONTROL COLUMNS
DUAL RUDDER PEDALS
CIRCUIT BREAKER PANELS
NOSE WHEEL
❸ CENTER FUSELAGE-CARGO AREA
FLIGHT TEST EQUIPMENT
BAGGAGE COMPARTMENT
AIR BOTTLE (DOOR OPERATION)
CABIN DOOR
EMERGENCY ESCAPE HATCHES
❹ AFT FUSELAGE
AIR CONDITIONING AND
PRESSURIZATION PACKAGE
RUDDER POWER CYLINDER
ELEVATOR CONTROLS
TRIM ACTUATORS
❺ WING
FLAP AND SPEED
BRAKE CONTROLS
AILERON CONTROLS
MAIN LANDING GEAR
ENGINES J34 WE-34
FUEL CELLS
1
2
3
4
5

The aircraft was reconfigured and repainted as the Model 220 with new registration of N220N. With all of its experience being with military aircraft, McDonnell really did not know how to market the plane. The aircraft was eventually offered as a "package" – the prototype, all engineering data, tooling, and blueprints but there still were no takers.

The Model 220 in the Flight Safety compound at Deer Valley Airport during 1967. There was a stipulation that the plane would never fly again but this apparently made little difference to the new owners.

manufacturers that responded had little or no experience in marketing small business jets and poor market analysis resulted in fanciful claims for projected sales and, as manufacturers quickly found out, one size did not fit all. Being first as Lockheed was with their JetStar, was no guarantee for market domination and economic success. Lockheed needed to sell 300 aircraft to break-even and once the North American Sabreliner became available, JetStar sales dropped off dramatically. Fairchild Aircraft initially projected a sales potential of 600 aircraft for its M-185F and had orders for three (at a cost of $6,000,000 to build) so they opted out of the competition.

Several abortive proposals were made to the USAF to win a production contract which included: Bombardier/Navigator Trainer, Airways & Communication Service Aircraft, Interceptor Radar Trainer, Electronics Flying Test Bed, High-Speed Transport, and Electronics Counter-Measure Trainer.

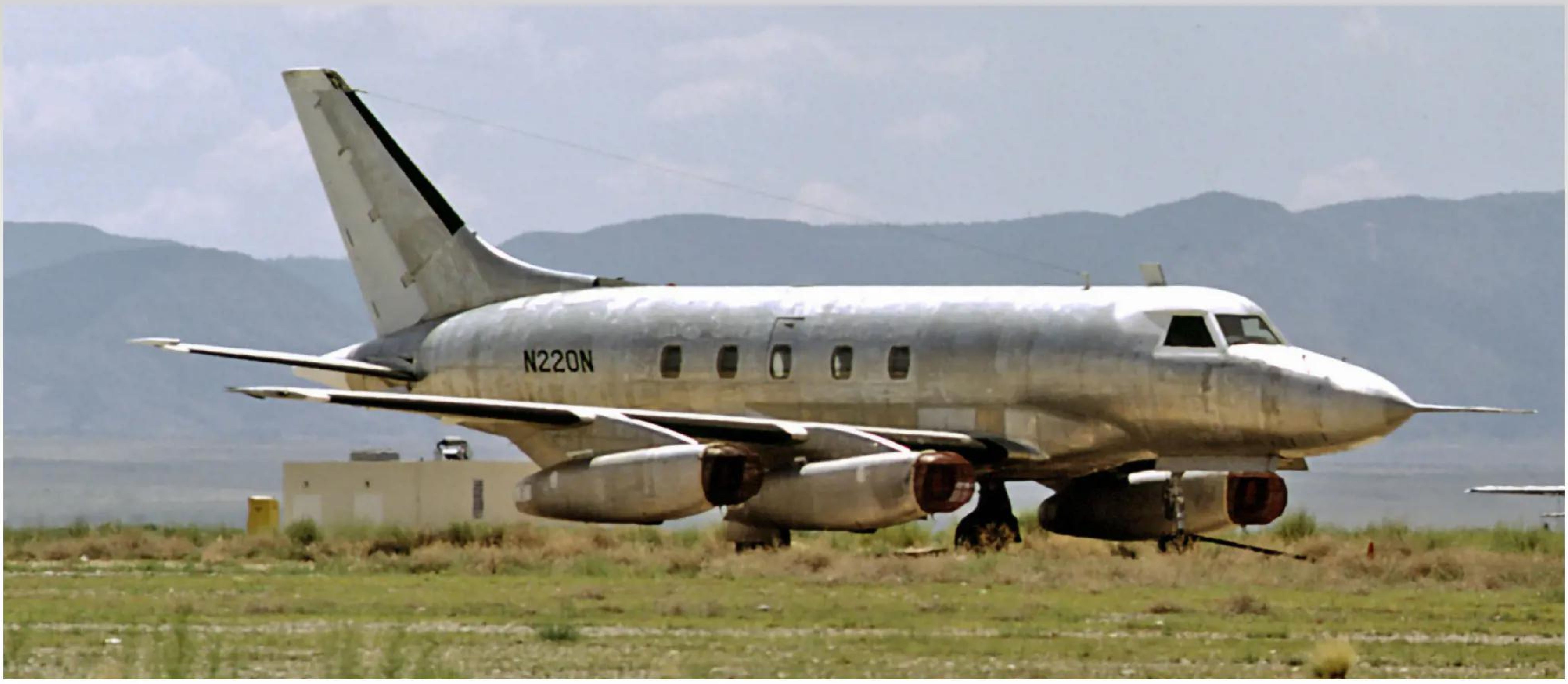
When asked whether the aircraft would go into production, James McDonnell responded: "In order to offer an attractive price, we feel we ought to have an Air Force contract." However, he refused to pin production plans specifically to a contract award. Boeing president Malcolm Stamper (1972-1985) said: "It is impossible to price a commercial aircraft from the cost of making it. The airplane has to be competitive and, as such, prices itself — not as a function of actual costs."

In 1959, Pan American World Airways Business Sales Division expressed an interest for up to 170 Model 119As on lease or purchase but McDonnell reasoned this was still below the break-even point. Pan Am ordered the Dassault Falcon 20 instead during 1963.

The M-119A, redesignated as the M-220 (and picking up the name of Phoenix), received its Provisional Type Certificate in October 1960 and the Provisional Airworthiness Certificate in December and was the first business turbojet to be certified under Federal Air Regulation Part 25. The aircraft was still unappealing to prospective customers and remained in St. Louis, flying as a company VIP transport. The FAA frowned on company use of the aircraft while flying on a Provisional Type Certificate.

In 1965, McDonnell sold the Phoenix for $1 to Flight Safety for use at their Deer Valley, Arizona, facility with the stipulation that it would never be flown again and only be used for research.

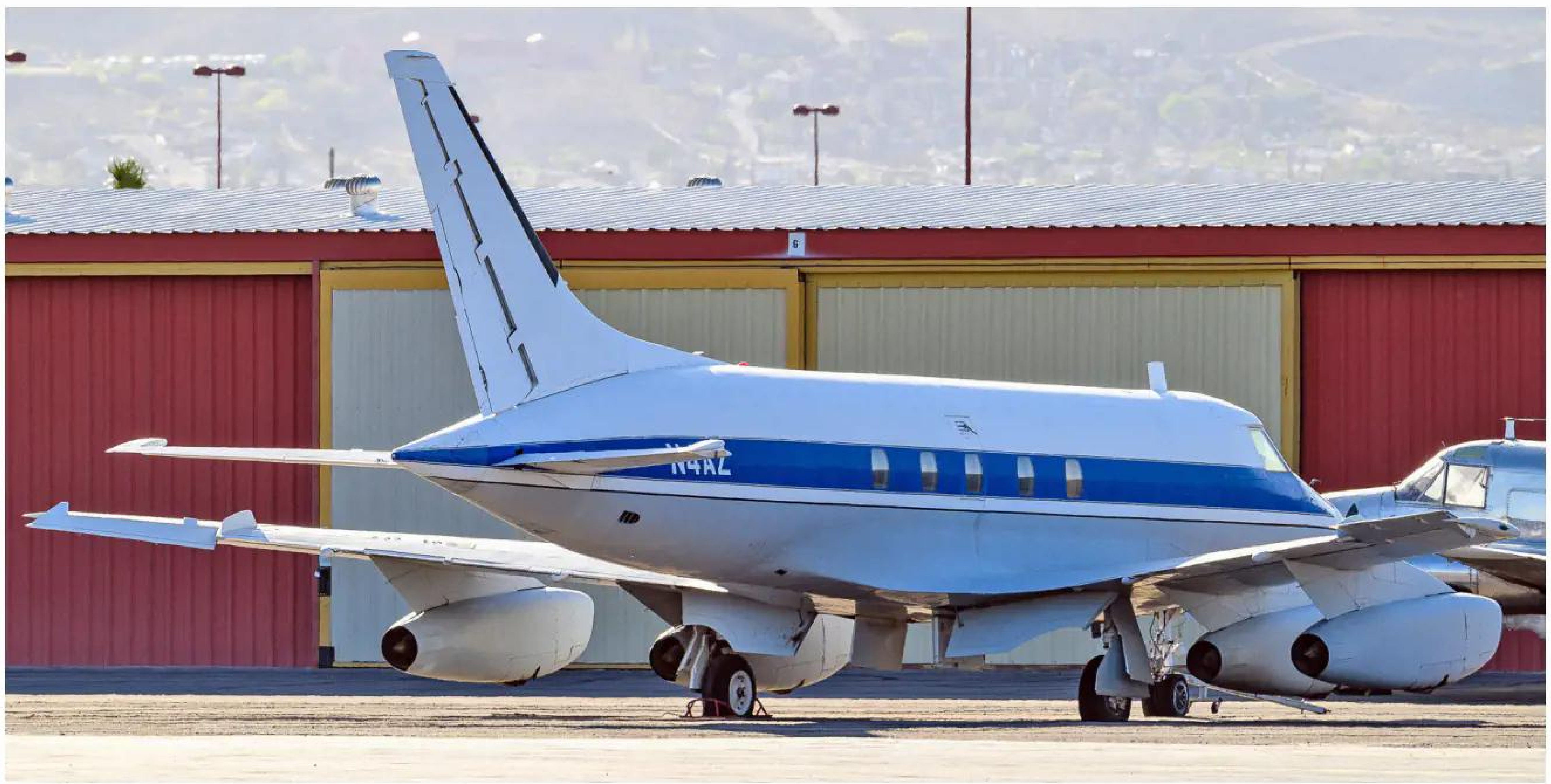
After baking in the desert sun for several years at Deer Valley Airport, the Phoenix was sold to Allied Aircraft Sales in Tucson for $10,000. Then, aircraft broker Richard Durand (who always had a fondness for strange and unusual aircraft) purchased the Phoenix in 1969 for $19,000. Durand wanted to get the plane to his home base in Albuquerque but there were a few problems. When fuel was put in, the dried-out tanks leaked like a sieve. A wingtip that had been crunched by a fuel truck was beaten straight with a hammer. The distinctive and long nose pitot tube had been bent and it was "arm-wrestled" back into a basically straight position. When the engines were started, holes were burned in the asphalt parking surface. Durand then flew the jet to Albuquerque. Lacking a proper checkout in type, Durand promptly had his pilot certificate suspended for 30 days by the FAA. Also, McDonnell's lawyers took note of the clause forbidding the further flying of the aircraft. This resulted in a lawsuit and a restraining order had been put on Durand terminating further flights. However, the judge said it was up to the FAA's normal airworthy inspection procedures to determine if the aircraft was airworthy. It was and Durand came



Stripped of paint, N220N appears in a desolate setting at Albuquerque, New Mexico.

out the winner even though the purchase and flight of the 220 had caused him plenty of problems.

Undaunted, Durand listed the Phoenix in *Trade-A-Plane* for $380,000 during 1973. Richard Archer of Washington stepped forward and bought the jet in December 1974 for $160,000. Archer, a wheat farmer, always had a dream of an aircraft like the 220 and he sold part of his land to finance the restoration of the Phoenix. He contracted with Mark Wilson of Steward-Davis Inc., a Long Beach, California, aircraft engineering and modification company. A restoration team was put together in Albuquerque. The aircraft was dismantled with many components removed and inspected then overhauled if need. The 1950s-vintage electrical and hydraulic system was inspected and repaired as needed. All bearings in the control systems were removed and replaced. The control surfaces were removed, inspected, and hung back on the 220. The landing gear was swung 50 times. In early 1982, the remanufactured jet engines were started and taxi tests begun. Archer's brother Mike and fellow TWA pilot Roger Lund attempted to move the Phoenix from Albuquerque to an unstated destination, but were thwarted by a broken nose gear torque link. Archer wanted to get the aircraft airworthy and take it to the Hanover Airshow in the then-West Germany. Why Hanover is unclear but he apparently wanted people to view the aircraft and come up with ideas on how it could be utilized — perhaps as a testbed for avionics or engines. Obviously, a lot of money had been spent by this time but the Model 220 never went through its flight test program. It seems that interest — or perhaps money — had run out. The original N number of the Model 119A was N119M and it became N220N with the Model 220 and, finally, N4AZ.



The M220 registered N4AZ at El Paso, Texas, during 2024. The aircraft appears to be in reasonable shape and hopefully this unique American design will not be scrapped.

At some point, the Phoenix was sold to alleged African arms runner David Tokoph (who was also a front man for several African airlines that were suspected to have CIA ties and who also owned a couple F-100 and six F-106 aircraft that he hoped to make airworthy). The plane was then flown to El Paso, Texas. In 2008, the Phoenix was purchased by Mark Sherman and remains firmly parked at El Paso today. Some of the locals state the aircraft is now owned by the airport.

The design and development of the Phoenix was a risk for McDonnell. The company spent some $12 million (calculating with inflation, this is $122,698,4000 in 2024 dollars) in research and development for the Model M-119A/220. This sum was written off against earnings for 1957, 1958, and 1959.

Along with the lack of previous experience in commercial jet aircraft sales, it appears that McDonnell began the M-119A project in a somewhat desultory manner. The decision not to pursue the design and production was correct, particularly in view of the poor sales record of its nearest competitor, the Lockheed JetStar. That being said, this unique prototype deserves to be preserved and hopefully will not be scrapped at El Paso after having survived for so long at that airfield. **AC**

DAY OF THE PRIVATEER

ONE OF WORLD WAR TWO'S MOST OVERLOOKED WARBIRDS IS THE CONSOLIDATED PB4Y-2. YANKS AIR MUSEUM SETS THE MATTER STRAIGHT WITH A SPECIAL CELEBRATION HONORING THE PATROL BOMBER

BY NICHOLAS A. VERONICO

AERIAL PHOTOGRAPHY BY MICHAEL O'LEARY

When it comes to Warbirds, the Consolidated Vultee PB4Y-2 Privateer is a real sleeper. The type has extensive combat history, starting with the war in the Pacific, but its service was eclipsed by the Navy version of the B-24 (PB4Y-1) Liberator and the USAAF Boeing B-29 Superfortress. Privateer squadrons operated from Tinian, the Philippines, Palau, and later Okinawa, to attack Japanese land- and sea-targets. The Privateers' ability to cruise for long distances, use its search radar and electronic countermeasures equipment, coupled with its heavy armament, enabled the aircraft to be effective at sending ships to the bottom and to dogfight Japanese aircraft when necessary. Navy PB4Y-2s were responsible for sinking more than 570 ships, damaging another 620, while downing more than 40 enemy aircraft at a cost of 56 Privateers.

The US Navy entered the Cold War on 8 April 1950, when four Soviet Lavochkin La 11 fighters (NATO reporting code name "Fang") flying from Kaliningrad, Soviet Lithuania, intercepted Privateer BuNo 59645 from Patrol Squadron 26 (VP-26) at 12,000 feet near the port of Liepaja, Latvia. After being fired upon by the La 11s, the unarmed Privateer exploded in the air over the Baltic Sea, approximately 35 miles west-southwest of Liepaja. The remains of the crew were never located.

Later in 1950, Privateers were called-up for action in the skies over Korea, often dropping flares for Navy fighters attacking truck convoys carrying supplies to North Korean

124
121
RESTRICTED

Unique sight of three H&P Privateers in formation on 12 October 1991 near Greybull, Wyoming. Lead aircraft is Tanker 121 with Tanker 124 second and Tanker 126 in the rear. The paint scheme on Tanker 121 was extremely distinctive.

troops. In the early and mid-1950s, the Nationalist Chinese used PB4Y-2s (now redesignated P4Y-2s) for bombing, sea patrol, and to drop agents into mainland China. In the latter half of the decade and into 1960 and 1961, the French *Aéronavale* used Privateers in North Africa and Vietnam. French Privateers patrolled the Gulf of Tonkin and flew alongside surplus Grumman F6F Hellcats and F8F Bearcats, as well as Vought Corsairs, during the colonial war there.

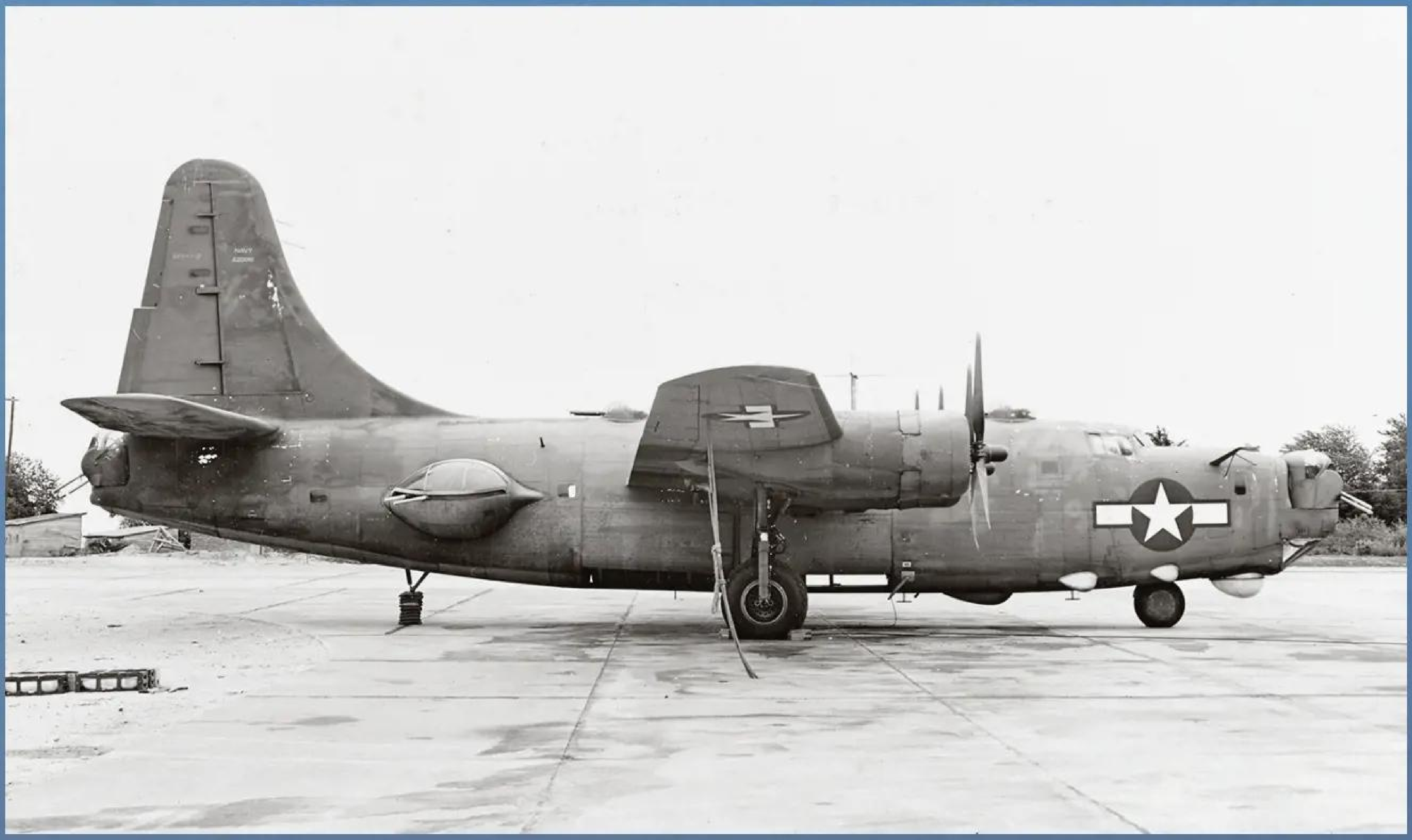
The Privateer most likely holds the distinction for being the last WWII four-engine bomber-type to have been lost in aerial combat. Nationalist Chinese Privateers were regularly dropping supplies to Kuomintang guerillas in Burma, and on 14 February 1961, the Burmese forcefully put an end to the overflights. The Burmese sent three Hawker Sea Furies from 1 Squadron, 501 Wing, to intercept what they thought was a Curtiss C-46 Commando. The aircraft turned out to be a Nationalist Chinese Air Force PB4Y-2, which was shot down by Pilot Officer Noel Peters, a British mercenary, flying Sea Fury FB.11 serial UB466. Peters' aircraft was struck by return fire from the patrol bomber and he perished when his Sea Fury crashed.

Although the Privateer was overshadowed by new and faster jet aircraft and newer generations of patrol bombers, there is no other four-engine patrol bomber that has such an extensive combat record, nor has one fought with so many different air arms.

EVOLUTION OF A PRIVATEER

During WWII, the Navy was able to obtain a number of B-24D Liberators to fill its need for a long-range anti-shipping patrol aircraft. On 6/8 April 1943, representatives from the Navy's Bureau of Aeronautics met with engineers from Consolidated Vultee (later Convair), to discuss a quick modification that would make the four-engine land bomber more suitable for the naval mission. The modifications would include radar, a nose turret, electronic warfare capabilities, and a different crew-seating configuration.

On 8 May 1943, the Navy issued a letter contract for three prototypes and 660 production aircraft ($108.9 million

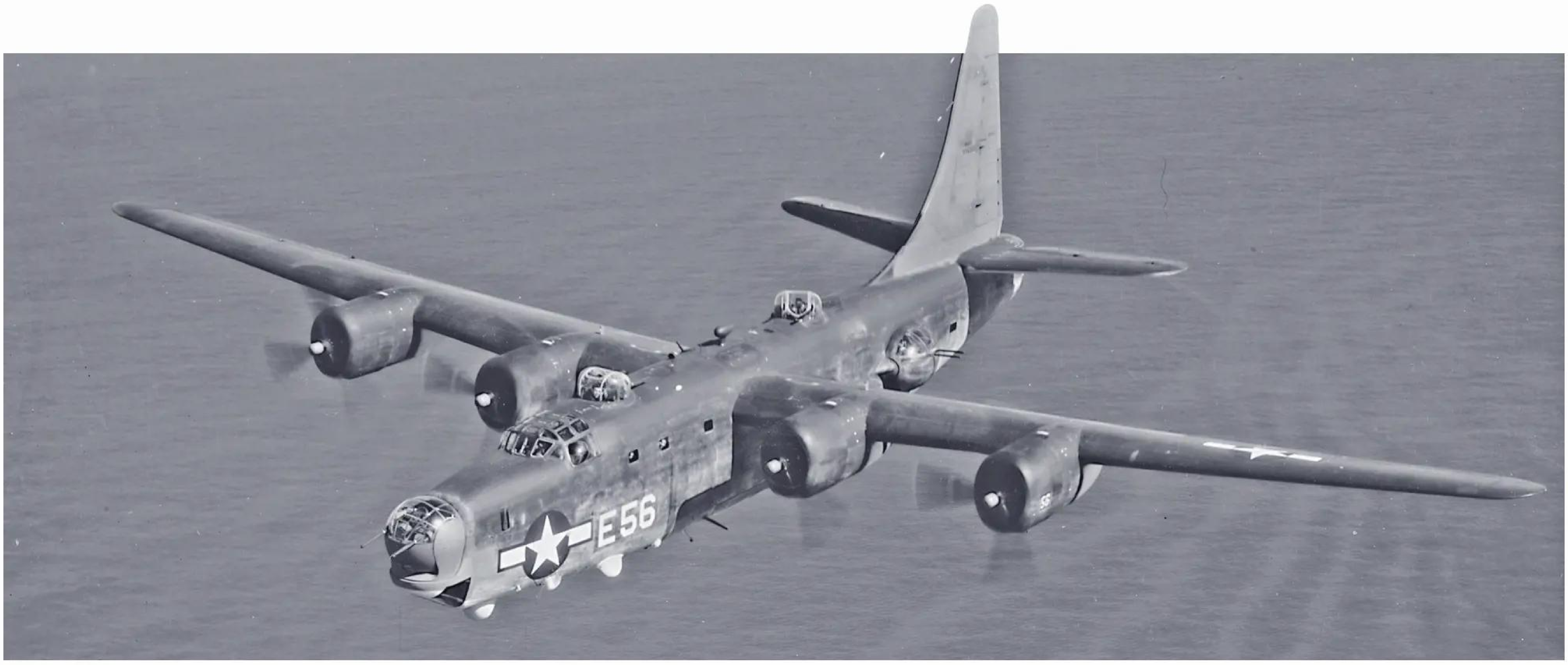


Privateer in the making — XPB4Y-2 BuNo 32096 photographed at Patuxent River on 6 June 1944. Named the *Patuxent River Warthog*, this was one of three B-24Ds converted to XPB4Y-2 configuration — although there were would be plenty more changes before the final production aircraft.

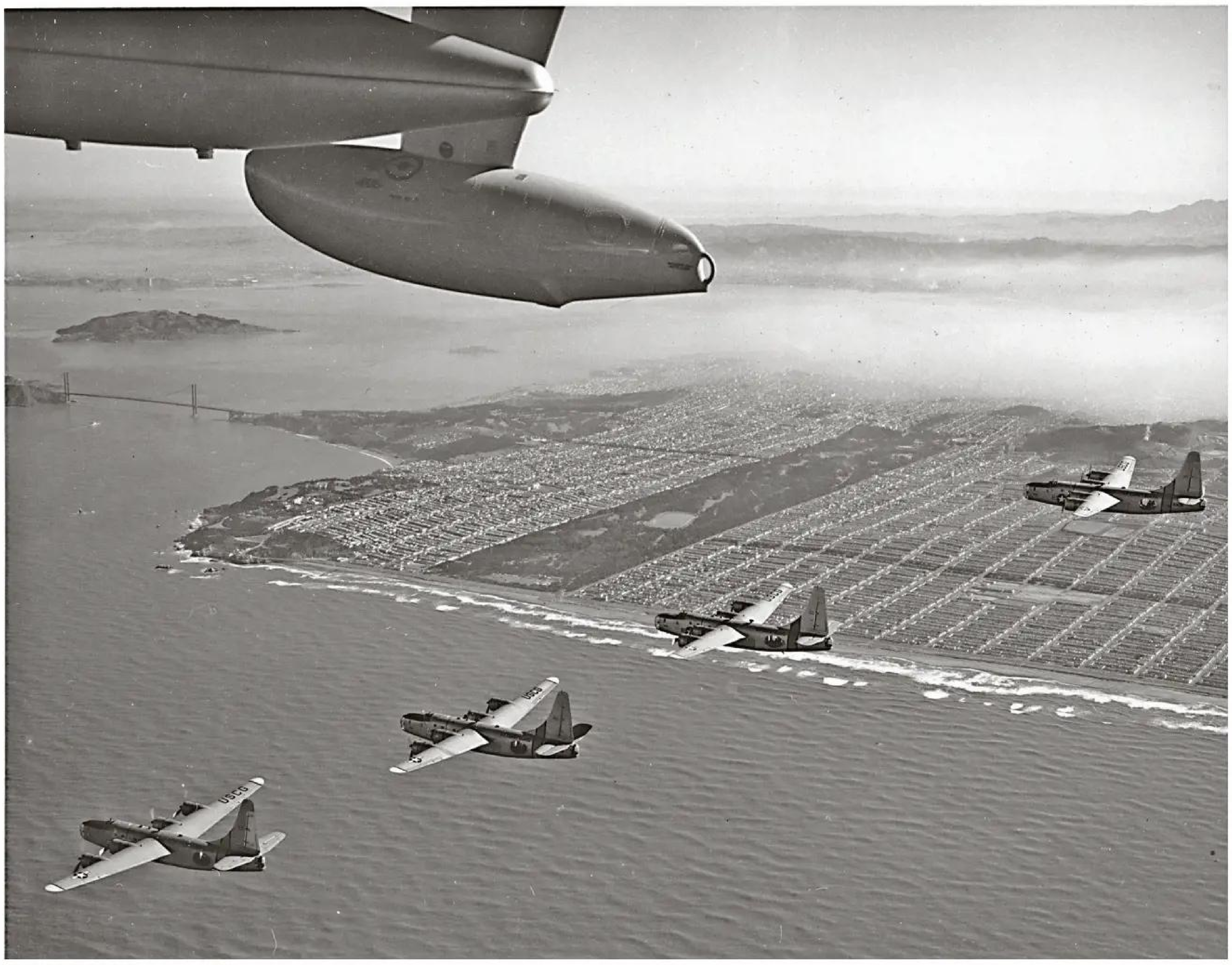
OVERLEAF: Tanker 124 displays the bulged bomb bay area that was modified to hold the tanks for the retardant. H&P kept the hard-working Privateer fleet in excellent condition and during fire season the PB4Ys dispersed to as far away as Alaska.

124

N2872G



Combat configured PB4Y-2s took the fight to the Japanese in the Pacific War. The Privateer was equipped with a dozen Browning M2 .50-caliber machine guns in six powered turrets. The two waist turrets were essentially ball turrets in a tear-drop fairing that could rotate down 95-degrees. Fire from the guns converged below the fuselage, thus eliminating the need for a belly turret. (USN)



Magnificent photo illustrating four of the USCG's seven P4Y-2Gs flying north off the coast of San Francisco as seen from the air station's Grumman Albatross. USCG Privateers often escorted trans-Pacific airline flights to the San Francisco International Airport following in-flight emergencies. (National Archives via Todd Hackbarth)

or $165,000 each), plus $16.3 million worth of spare parts. By war's end, the Navy had ordered 1370 Privateers. In a patrol/reconnaissance configuration, the aircraft was designed to have a 62,000-lb gross weight, with a maximum speed of 237-mph at 13,750 feet, a fully loaded stall speed of 101-mph, a service ceiling of 20,700 feet, and be able to take off and clear a 50-ft obstacle with a 4700-ft takeoff roll. The patrol bomber had a range of 2800 miles.

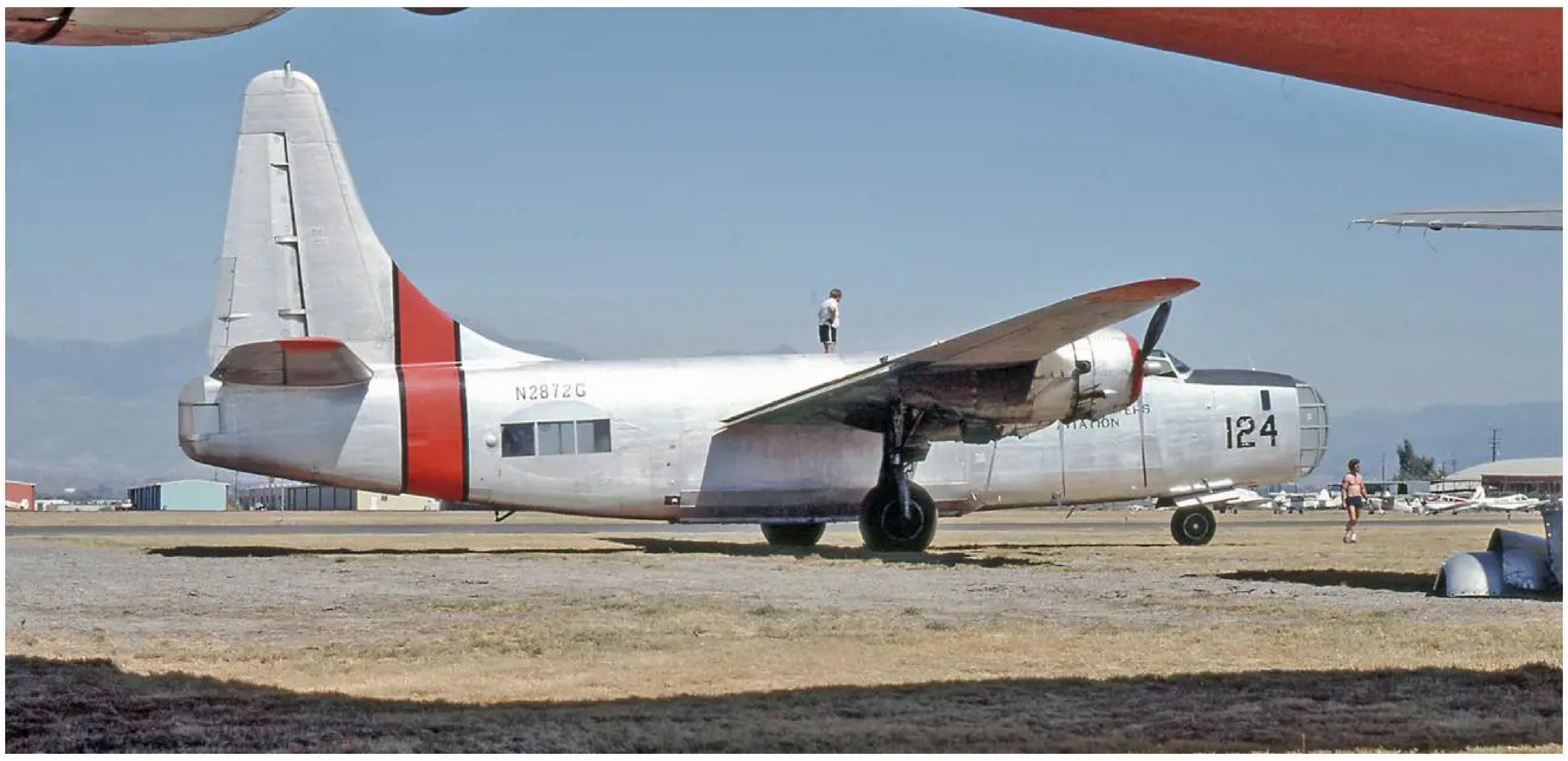
This new naval reconnaissance aircraft, designated the PB4Y-2 (PB — Patrol Bomber; Model Four; Y — Consolidated Aircraft, Design Two), was fitted with four 1350-hp supercharged R-1830-94 engines for improved, low-level performance, and six turrets, each fitted with two .50-caliber machine guns each (nose turret, two top turrets, two side blister turrets, and a tail turret). The standard B-24 fuselage was lengthened by seven feet forward of the wing to accommodate the pilots, a radar operator, radio operator, navigator, and an additional top turret. Under the fuselage, behind the nose wheel, an APS-15 search radar in a retractable dome was installed and deployed in flight. The B-24 Liberator's twin tails were removed and the Privateer was fitted with a single, tall, vertical tail and rudder.

The first squadrons to receive the PB4Y-2 were VPB-118 and VBP-119, which began transitioning to the Privateer in August 1944. VPB-118 "Old Crows" became the first squadron to take the type into combat, deploying to Tinian Island in the Marshalls Group on 6 January 1945. In March 1945, VPB-109, -123, and -124 were selected to take the radio-controlled Bat bomb into combat. On 23 April 1945, VPB-109 made the US Navy's first Bat missile strikes of the war against shipping in Balikpapan Harbor, Borneo.

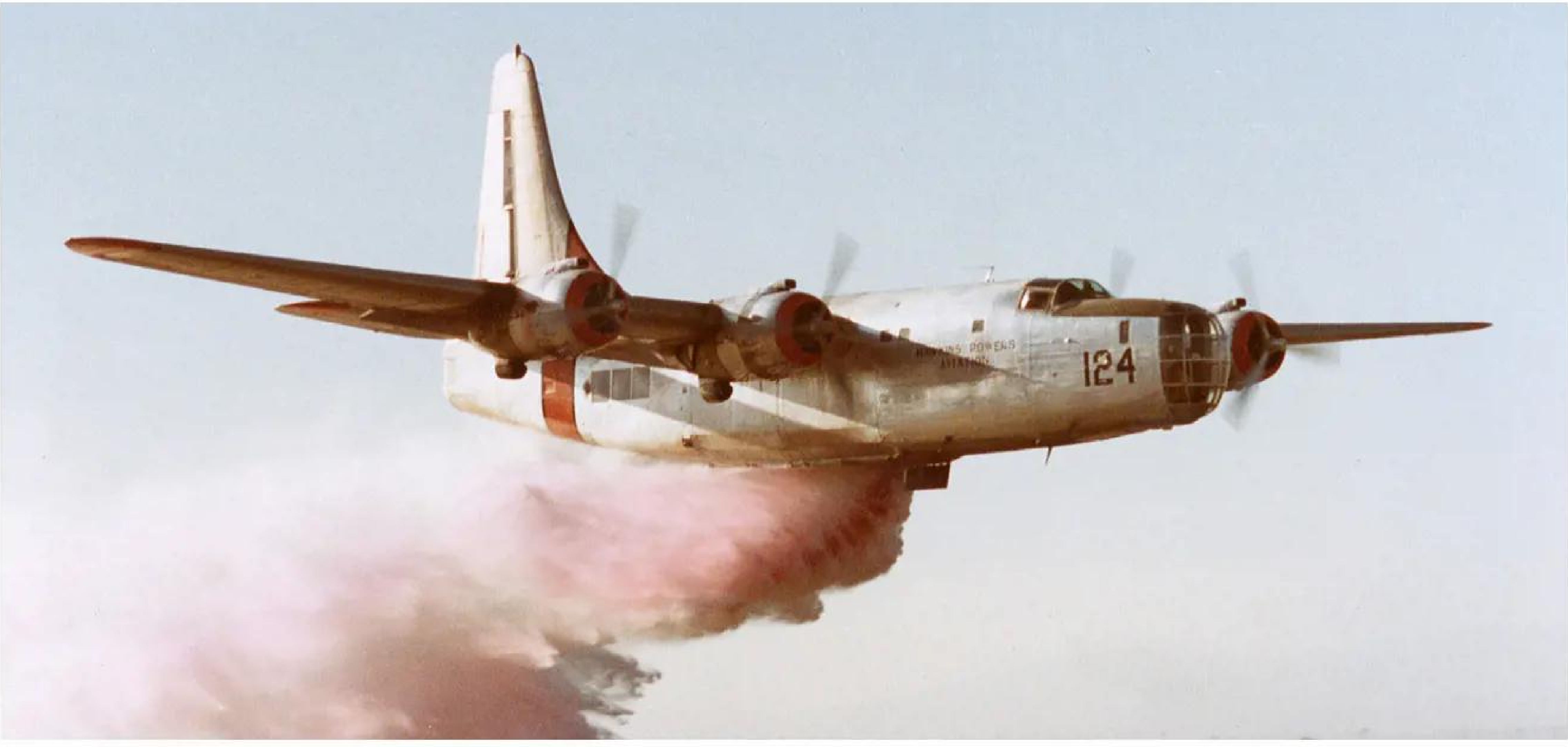
After the Japanese surrendered on 2 September 1945, nearly all of the Navy's aircraft contracts were canceled, however production of the PB4Y-2 continued, albeit at a lesser rate. Approximately half of the order was canceled, but a total of 739 PB4Y-2s were delivered plus an additional 34 RY-3 cargo-carrying versions incorporating the Privateer's wings, engines, and tail group. The Privateer was built at Consolidated's San Diego, California-factory and were then flown to the modification center at Litchfield Park, Arizona, and completed for service. PB4Y-2s completed as the war ended were towed across ramp at Litchfield Park and placed directly into storage.

SURVIVOR'S SAGA

PB4Y-2 Privateer BunNo 66300 was accepted on 31 August 1945, and delivered on 13 November of that year. When



Tanker 124 is prepared for a mission during September 1980 from Hemet Ryan Airport in southern California. Each fire season could count on several Privateers being based in the area. For its fire-fighting life, the markings on Tanker 124 were pretty minimal but during this period it had a bright red fuselage band.



Tanker 124 making a practice drop at Hemet Ryan. (Milo Peltzer Collection)

it was placed into storage at Litchfield Park, the patrol bomber had accumulated just four hours of flying time. Seven years later, on 3 July 1952, BuNo 66300 was flown west where it was overhauled at Naval Air Station North Island, outside San Diego. After overhaul, it was stricken from the Navy's inventory with 13 hours total time.

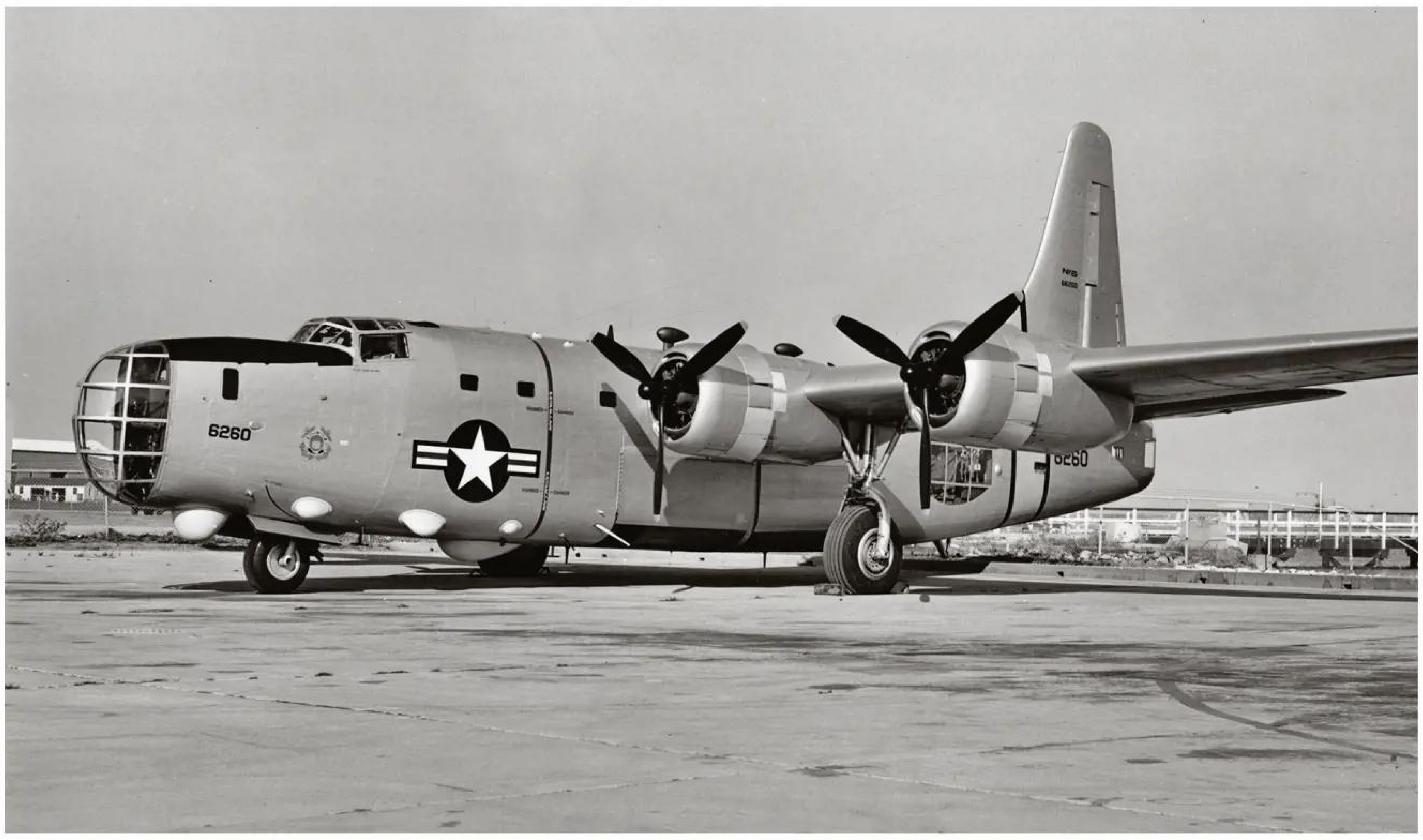
In 1951, the Navy overhauled its aircraft designation system and the PB4Y-2 became the P4Y-2. Shortly after the designation change, in mid-1952, the US Coast Guard acquired seven Privateers for its long-range search mission. Those aircraft were BuNos 59688, 59876, 66260, 66300, 66302, 66304, and 66306. The Coast Guard Privateers were redesignated as the P4Y-2G. While at NAS North Island for modification, the turrets were removed and replaced with observers' stations — a chair behind a giant window, which had to be the best seat in the service.

The Privateers could not drop life rafts to sailors in distress, but they could arrive in a search area very quickly and help direct aid to stricken vessels. They were also used extensively to escort aircraft that might be having mechanical or navigational problems when making a trans-Pacific flight. For example, during the mid-1950s, the Boeing Stratocruiser was having propeller blade problems and a couple of the double-deck airliners had to ditch between Hawaii and the West Coast. Coast Guard Privateers were stationed at San Diego and San Francisco, California, and Barbers Point, Hawaii, with temporary duty stations at Wake and Midway Islands, ready to escort an aircraft or vessel in trouble.

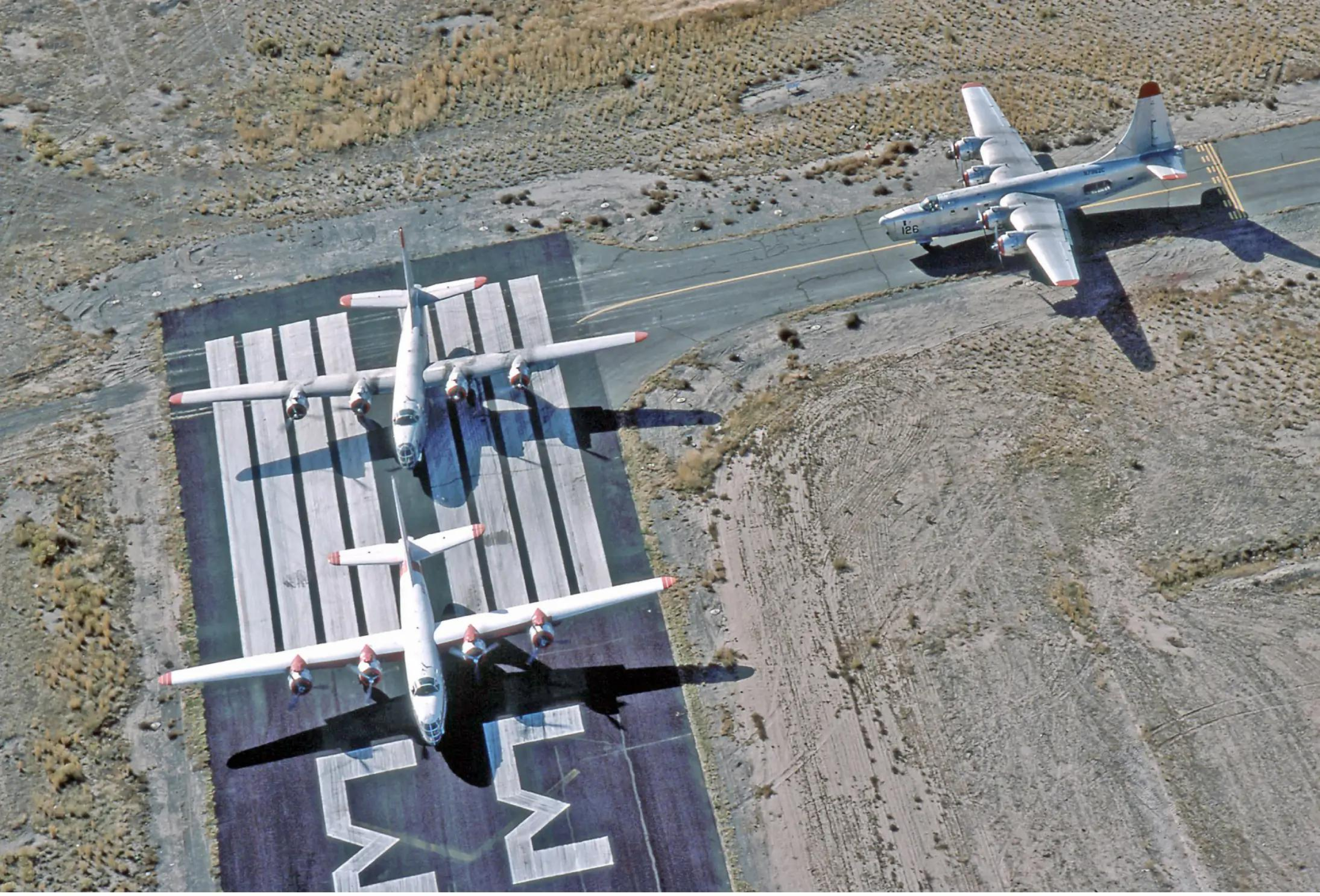
In June 1958, while the aircraft were still flying patrols, the Coast Guard put its fleet of PB-1s (B-17s) and P4Y-2Gs up for auction. BuNo 66300 was last overhauled in April 1957, and had only 1733 hours total time on its airframe, 222 since overhaul. When offered for sale, its engines were very low time — 140, 226, 226, and 274 hours.

Ace Smelting was an aircraft recycling business that had a yard adjacent to the Navy's storage facility at Litchfield Park. Ace Smelting made a lot of money buying surplus Privateers, removing the patrol bomber's four R-1830-94 radial engines, and reselling those to companies upgrading DC-3s and C-47s. Ace Smelting and its competitor Allied Aircraft could supply two DC-3s per Privateer, and many of the former patrol bombers could be seen sitting tail down/nose high, minus engines, waiting to be scrapped. The -94 was a very sought-after powerplant for the expanding fleet of surplus DC-3s/C-47s being used as executive transports and cargo haulers.

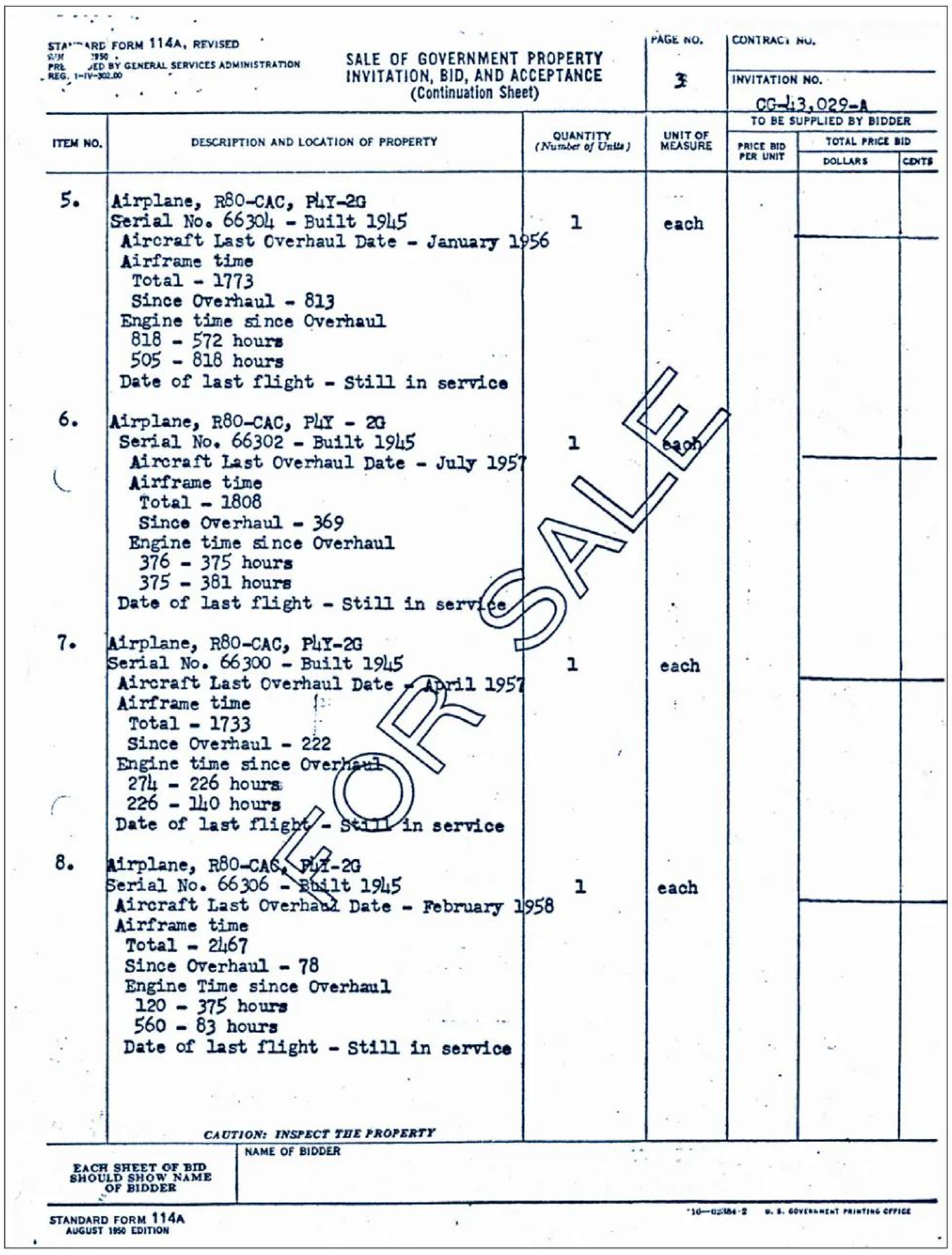
On 6 November 1958, Ace Smelting won the bid for 66300, 66302, and 66304. The individual aircraft sales prices are not known as they were blacked out, for unknown reasons, on the FAA's copy of the bills of sale. Two of the other Coast Guard Privateers were also sold surplus, 59876 was sold to Lysdale Flying Service based at Fleming Field in South St. Paul, Minnesota for $6600 while 66306 went to



Sistership to BuNo 66300. P4Y-2G 66260 on the ramp at USCG Station San Francisco awaiting its next mission. The photo shows the markings and search radar radomes on the bottom of the fuselage. Aft fuselage band was bright yellow. (William T. Larkins)



Unusual sight of Privateers 121, 124, and 126 taking the active on Runway 33 at Greybull.



STANDARD FORM 114A, REVISED
1950
PRESCRIBED BY GENERAL SERVICES ADMINISTRATION
REG. 1-IV-302.00

SALE OF GOVERNMENT PROPERTY
INVITATION, BID, AND ACCEPTANCE
(Continuation Sheet)

PAGE NO. 3

CONTRACT NO.

INVITATION NO. CG-43,029-A

ITEM NO.	DESCRIPTION AND LOCATION OF PROPERTY	QUANTITY (Number of Units)	UNIT OF MEASURE	TO BE SUPPLIED BY BIDDER		
				PRICE BID PER UNIT	TOTAL PRICE BID DOLLARS	CENTS
5.	Airplane, R80-CAC, P4Y-2G Serial No. 66304 - Built 1945 Aircraft Last Overhaul Date - January 1956 Airframe time Total - 1773 Since Overhaul - 813 Engine time since Overhaul 818 - 572 hours 505 - 818 hours Date of last flight - Still in service	1	each			
6.	Airplane, R80-CAC, P4Y - 2G Serial No. 66302 - Built 1945 Aircraft Last Overhaul Date - July 1957 Airframe time Total - 1808 Since Overhaul - 369 Engine time since Overhaul 376 - 375 hours 375 - 381 hours Date of last flight - Still in service	1	each			
7.	Airplane, R80-CAC, P4Y-2G Serial No. 66300 - Built 1945 Aircraft Last Overhaul Date - April 1957 Airframe time Total - 1733 Since Overhaul - 222 Engine time since Overhaul 274 - 226 hours 226 - 140 hours Date of last flight - Still in service	1	each			
8.	Airplane, R80-CAC, P4Y-2G Serial No. 66306 - Built 1945 Aircraft Last Overhaul Date - February 1958 Airframe time Total - 2467 Since Overhaul - 78 Engine Time since Overhaul 120 - 375 hours 560 - 83 hours Date of last flight - Still in service	1	each			

FOR SALE

CAUTION: INSPECT THE PROPERTY

EACH SHEET OF BID SHOULD SHOW NAME OF BIDDER

NAME OF BIDDER

STANDARD FORM 114A
AUGUST 1950 EDITION

10—02184-2 U. S. GOVERNMENT PRINTING OFFICE

Government bid sale flier offering four ex-USVG Privateers for sale. All were low-time aircraft that would find a third career as aerial attack aircraft. (Scott Thompson)

Christler and Avery of Greybull, Wyoming, for $10,000. The seventh Coast Guard P4Y-2G, BuNo 59688 was damaged beyond economical repair on 19 June 1957, when its starboard landing gear collapsed while rolling out after landing at CGAS Barbers Point.

Ace Smelting turned its Privateers around for a quick profit, selling 66260 to Big Piney Aviation of Roy, Utah, and, on 20 November 1958, the remaining three to Christler and Avery. On 29 January 1959, BuNo 66300 was registered N2872G and modified into an aerial fire-fighting aircraft with the addition of retardant tanks, new cockpit enclosures, and up-rated R-2600 engines taken as QECs from surplus B-25 Mitchells. The aircraft fought fires for a decade before being sold to Hawkins & Powers Aviation, also of Greybull, on 7 November 1969. Through the years, the plane wore tanker number B24 ("B" for the US Forestry Dept. region) and later wore tanker number 124. The Privateer air tankers fought fires from Alaska to California and throughout the Western United States for more than 40 years.

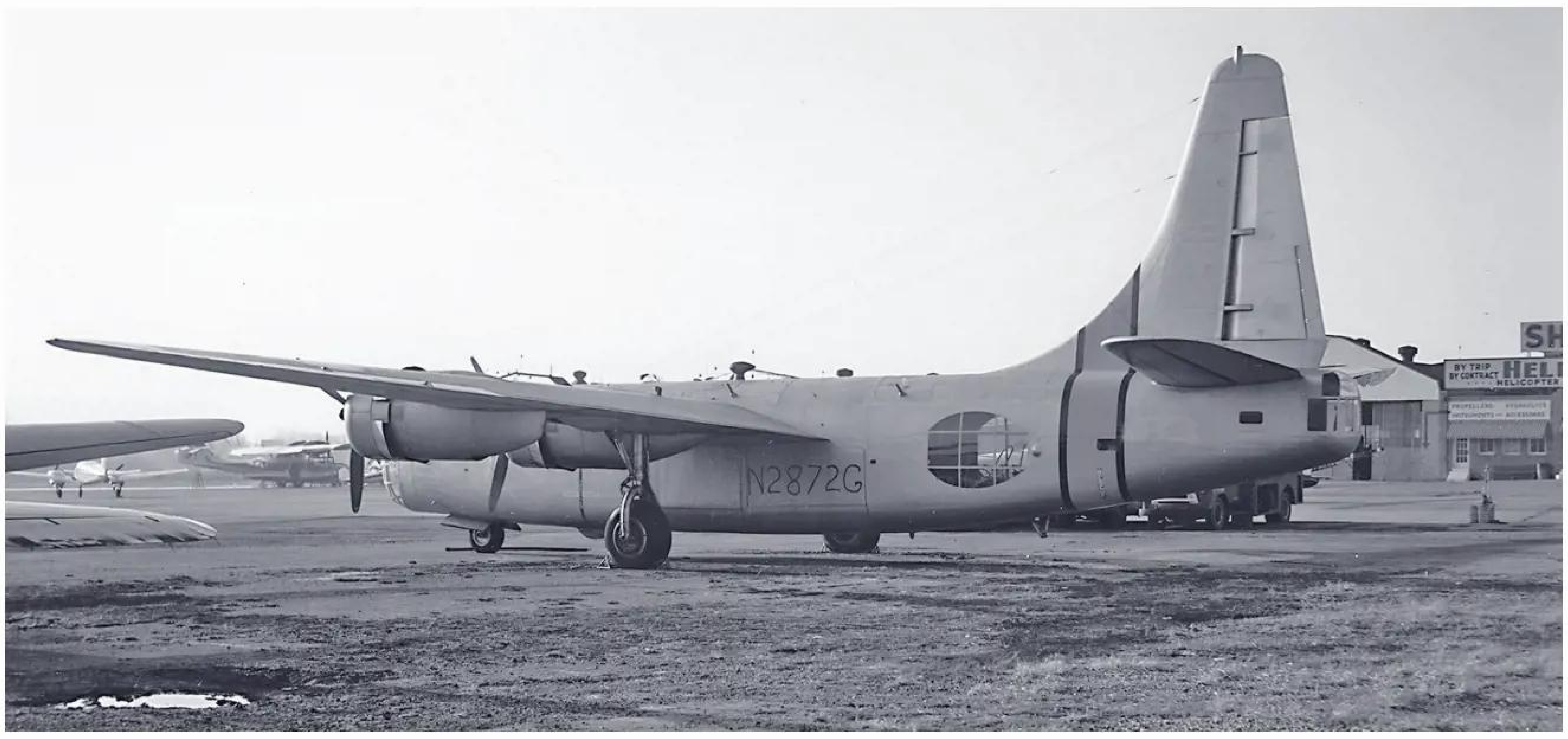
With Hawkins & Powers, Tanker 124 soldiered on until 18 July 2002, when a sister ship, Tanker 123 (BuNo 66260, N7620C) flown by Ricky Schwartz and Milt Stollak, crashed while fighting the Big Elk fire outside of Estes Park, Colorado.

According to the National Transportation Safety Board's 23 April 2004 Safety Recommendation, Tanker 123 "experienced an in-flight separation of the left wing while maneuvering to deliver fire retardant over a forest fire near Estes Park, Colorado." At the time of the accident, Tanker 123 was carrying 2000 gallons of retardant. The Privateer was in a left turn to line up for its eighth drop of the day on what was known as the Big Elk Fire. While still in the 15 to 20-deg left bank, witnesses on the ground and in another tanker observed the left wing separate from the aircraft and "fold upwards," followed almost immediately by the beginnings of a fire. The PB4Y-2 continued to roll left, impacting the ground at a 45-deg nose down attitude, starting a large fire at the wreck site.

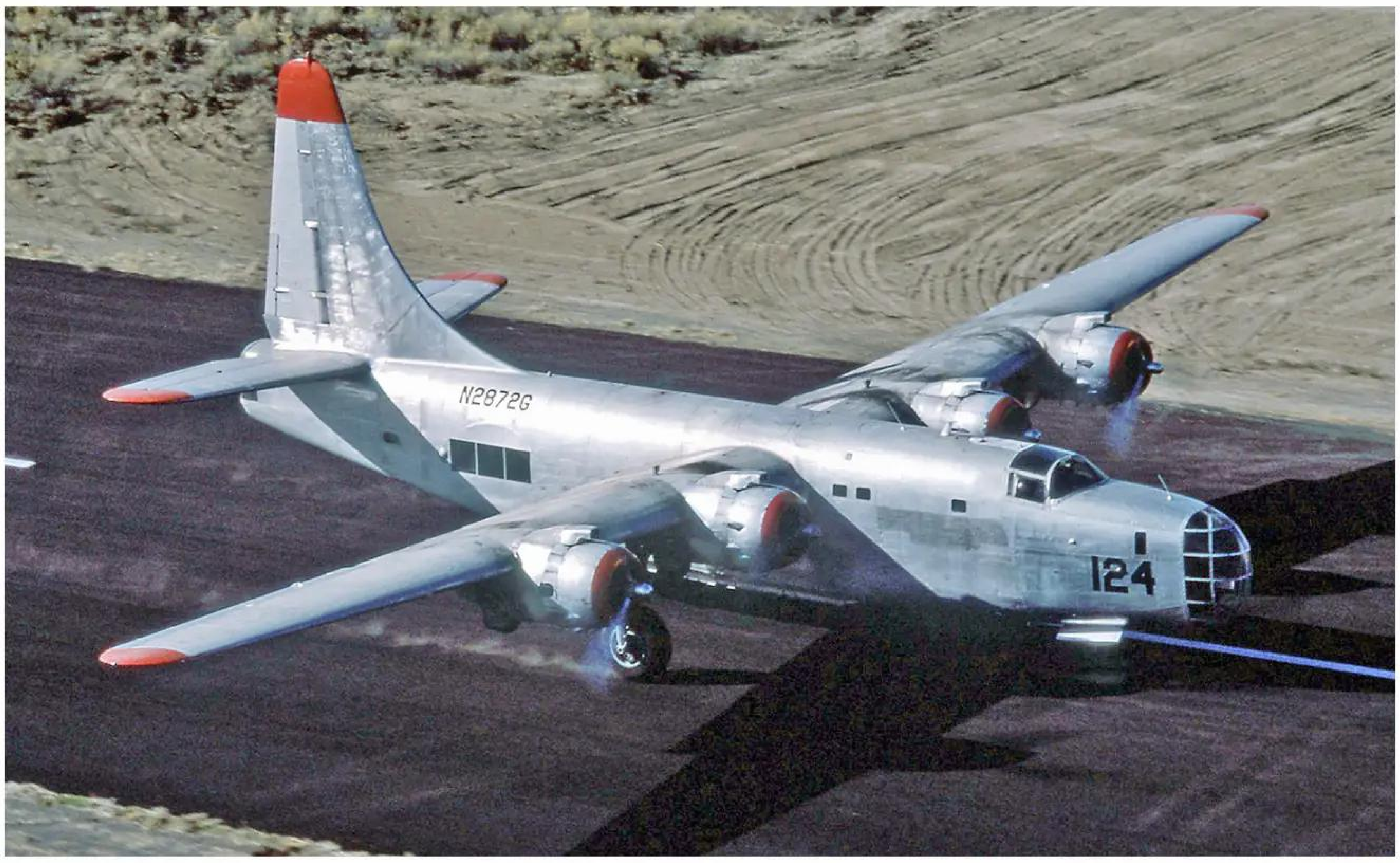
"Metallurgical examination of the left wing revealed that it failed at the wing-to-fuselage attachment point along the forward lower spar cap," read the report. "A fatigue crack measuring approximately 21-inches had propagated from the lower portion of the forward spar cap members upward into the spar web. The crack initiated in rivet holes used to attach three 'L'-shaped spar cap members to the spar web.

"The portion of the wing containing the fatigue crack was obscured by the retardant tanks and would not have been detectable by an exterior visual inspection. The Safety Board determined that the probable cause of this accident was the in-flight failure of the left wing due to fatigue cracking in the left wing's forward spar and wing skin." It was also noted that the crack had a great deal to do with an original manufacturing defect and the crash was not the fault of the crew nor H&P.

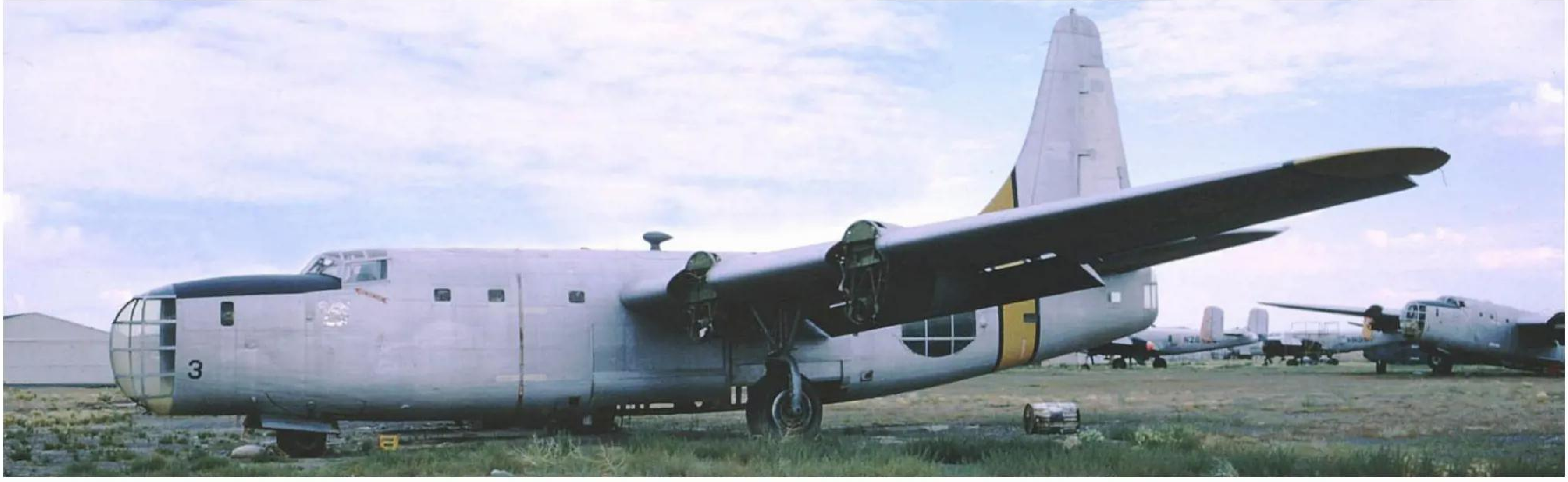
The crash of N7620C and the wing separation and resulting crash a month earlier of H&P's fire-fighting Lockheed C-130A Hercules N130HP Tanker 130 on 17 June 2002, caused all large ex-military air tankers to be grounded. Pilot Steve Wass, copilot Craig Labare, and flight engineer Michael Davis died in the crash when the wing failed at the wing-to-fuselage attach point, with the right wing failing just before the left. The Hercules was part of the "new" generation of fire-bombers and these early C-130As had been released to the tanker companies. What the USAF and Lockheed failed to disclose is that the C-130A had a history of such cracks — a bad history. This particular aircraft, USAF 56-0538, had a peculiar history and was one of the original 1957 production Hercules. As with all USAF aircraft, it came with a detailed maintenance history — except for four years in the late 1960s when the



BuNo 66300 on the ramp at Sky Harbor Airport in Phoenix shortly after being sold surplus from NAF Litchfield Park on 22 November 1958. Note the sprayed registration N2872G on the left rear bomb bay door. (Brian Baker)



Throttles for the R-2600s all the way forward, Tanker 124 charges down Greybull's Runway 33. Note now the large side observation panels had been reduced in size with the addition of some aluminum sheeting.



BuNo 66300 sits engineless at Greybull awaiting its Wright R-2600 QECs and other modifications for conversion to a fire-bomber. Note the P4Y-2G on its tail to the right and the two civil B-25Js in the middle. The Mitchells would be engine donors and both would survive when rescued by Frank Tallman for the film *Catch 22*. After the movie, one would become *Air Classics' Executive Sweet* while the other would be purchased by Mike Pupich to become *Heavenly Body*. (Milo Peltzer Collection)

The distinctive B-24/PB4Y-2 Davis wing is shown to advantage in this view. When the aircraft were converted to fire-bombers, the cockpit canopy structure was removed and a simplified unit was added.

U.S. COAST GUARD
6302

Currently, BuNo 66302 is the only flying Privateer. The aircraft is maintained in immaculate condition by GossHawk Aviation.

records just did not exist. It turns out that the USAF "loaned" the plane to Southern Air Transport, an arm of the CIA. Thus, there was no history if the plane suffered cracks, was overloaded, or had any airframe damage. It is also interesting to note that Lockheed took notice of the overabundance of C-130A cracks and issued a recommendation that all C-130A center wing boxes be replaced. The USAF did do a lot of wing box replacing on the later C-130E and C-130H aircraft but did not want to spend the money on the "old" C-130As.

The NTSB reported that the large ex-military type air tankers typically underwent flight loads of -0.5 to +3.9Gs when pulling out after dropping a retardant load. The NTSB reasoned that any piece of metal exposed to these types of strains for more than 40 years would be affected by the stress and suffer some type of fatigue. Needless to say, many in the fire-fighting business and in the Warbird community disagreed with the NTSB report and felt that it was politically motivated. What the report did was to cause all of the "legacy" fire-bombers to stand down while America's natural resources burned. It took a number of years before a variety of jet airliners could be modified into aerial tankers and, in a touch of irony, observers noted that many of these retired airliners fit into the NTSB's "legacy" definition.

The report on "the airworthiness of aircraft that were operating outside of their original intended design" was released in March 2003. The USFS and BLM then declined to renew the contracts on nine C-130A and PB4Y-2 tankers. When this came to numbers, the facts were sobering. During 2002, 44 large air tankers were on exclusive use (EU) contracts but after the two accidents and the withdrawal of "vintage" aircraft, the fleet dropped and reached a low of just nine tankers by 2013. In 2014, the so-called "next-generation" tankers began to get contracts and the numbers moved upwards with ten to 20 on EU contracts but only 13 in 2018. The USFS has been using Call When Needed (CWN) tankers much more than before although they are very expensive to operate. In 2017, the average daily rate for large federal CWN tankers was 54% higher than aircraft on EU contracts. Thus, the grounding of the "vintage" aircraft allowed many fires to burn unchecked.

The subsequent loss of work for ex-military air tankers impacted Hawkins & Powers tremendously and forced the company, probably the best-run and most efficient American large tanker operator, to liquidate its assets at auction on 23/24 August 2007. The sale put two Privateers (66300 and 66302), an ultra-rare Fairchild C-82, a number of Fairchild C-119s, Boeing KC-97s, Lockheed P-2 Neptunes, and an A-26 into the Warbird market. At the time of the auction, four Privateers sat on the tarmac — BuNo 59701 (N6884C, the second Privateer to wear that registration, Tanker 127), BuNo 59882 (N7962C, Tanker 126), BuNo 66300 (N2872G, Tanker 124), and BuNo 66302 (N2871G, Tanker 121). BuNos 59701 and 59882 were held out of the auction and retained by Hawkins & Powers. Both aircraft are currently displayed at the Museum of Flight and Aerial Firefighting in Greybull. Tanker 121 was purchased by a private individual and a great deal of work was

During its fire-bomber career, Tanker 124 fought fires across America and up into Alaska.

With the plexiglass areas carefully covered over, the Privateer sits parked at Greybull after being withdrawn from service.

put into the airframe and engines. Now finished in its original US Coast Guard markings, the aircraft is kept in fine flying condition and it based at Casa Grande, California, where it is superbly maintained by GossHawk Aviation. Currently, Tanker 121 is the only regularly flying Privateer.

"One of the goals of Yanks Air Museum has been to acquire a B-24 Liberator," stated museum founder Charles Nichols. "As *Air Classics* readers know, Liberators are in somewhat short supply. We did a lot of searching around the world and checked South America, India, and the South Pacific but there was nothing reasonably intact. Then came the big auction at Hawkins & Powers. If I could not have a B-24, then I wanted a PB4Y-2. The Privateer contributed to the America victory in the Pacific and, although not as well-known, was a history-making aircraft in many ways. We inspected the aircraft at Greybull and chose Tanker 124 as it seemed to be the best of the aircraft. Frank Wright and a team from Yanks made numerous trips to Greybull while we had the wing modification and other work done on the aircraft. Captain Bob West agreed to fly the plane to Chino and Frank was on the mission along with Matt Walker. The aircraft ran just great and the guys at H&P did a superb job on getting the Privateer ready for the museum and put in several thousand man-hours on Tanker 124. The flight to the museum was on 22 November 2008, and Bob West had the plane running on an airline schedule. He met Michael O'Leary at 2500-ft over the old George AFB right on the minute and the two aircraft proceeded to Chino, taking lots of photos in the process. Bob made an arrival pass at Chino and then broke for a perfect landing. We now have Tanker 124 on outside display with some of our other large aircraft. Just a few months ago, the PB4Y-2 was the centerpiece for a Timberland commercial. We obtained some spare engines and other components for the Privateer at the auction and the aircraft is part of Yanks' long-term restoration program. It is a wonderful aircraft and I am proud to have it in the collection but I have not stopped my hunt for a Liberator!"

JOIN IN ON PRIVATEER DAY

The Yanks Air Museum will put the spotlight on its Consolidated PB4Y-2 BuNo 66300 on Saturday, 8 March 2025. The event will be free to museum members or with paid museum admission for non-members (this is a perfect time to become a member). The day will feature presentations on the history of the PB4Y-2, on BuNo 66300 specifically, Privateer Nose Art, a presentation and examination of the aircraft's unique defensive armament, and all sorts of other related Privateer activity. Of course, Tanker 124 will be proudly on display and available for photography so do not miss out on this chance to view an American classic. **AC**

YANKS
AIR MUSEUM

JOIN
"PRIVATEER DAY"
8 MARCH 2025

Bell P-63
Kingcobra

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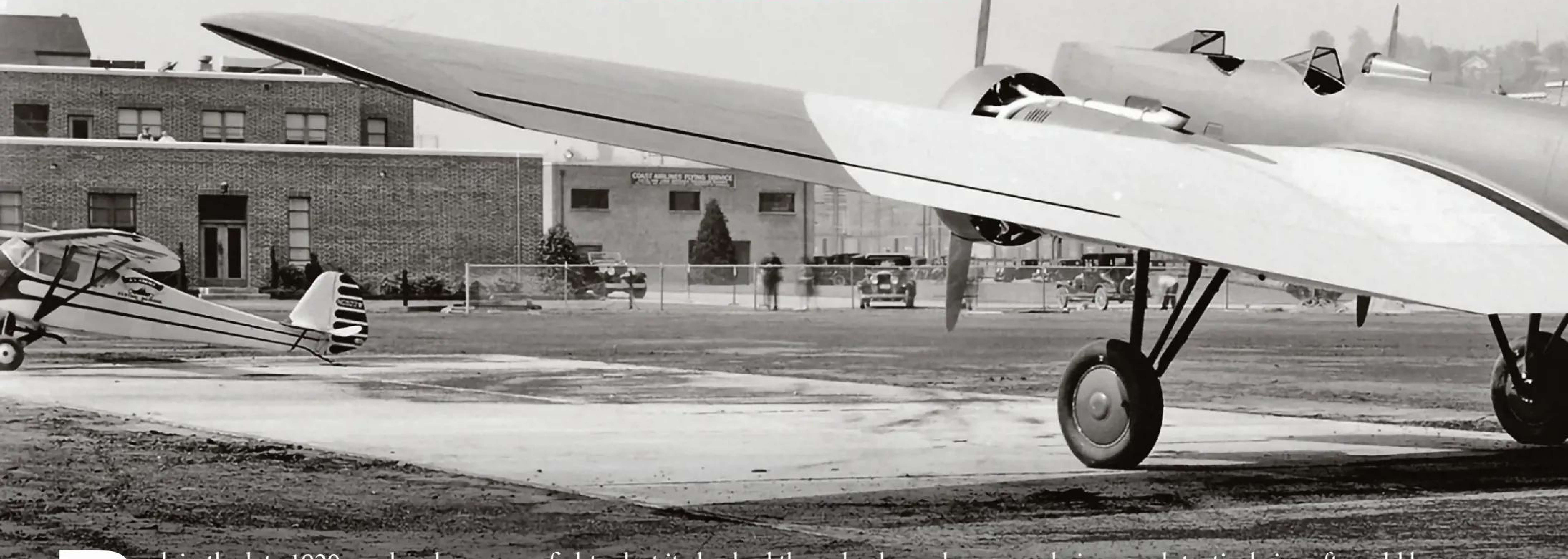
BOEING'S DEATH ANGEL

THIS DARING DESIGN FOR THE AIR CORPS BECAME, FOR A BRIEF PERIOD, THE WORLD'S FASTEST BOMBING AIRCRAFT

BY MARTIN WALTON



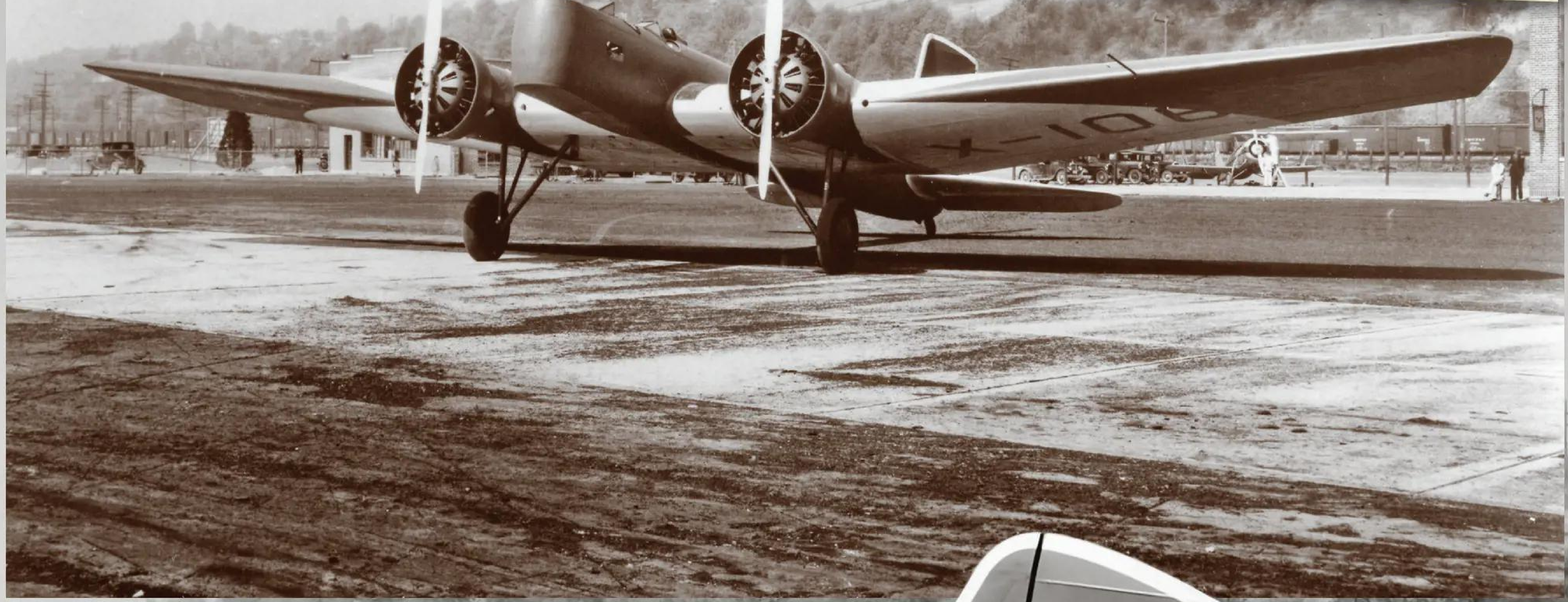
Back in the late 1920s and early 1930s, Boeing was a conservative but hard-charging aviation company employing the best engineers that had been hired to create products that would drag American aeronautics out of the morass of fabric-covered military and civil biplanes that seemed to date back to the Great War. The F4B/P-12 series were excellent pursuits but Boeing knew that the age of the biplane was over. Then came the Boeing P-26 — the Air Corps first all-metal monoplane fighter but it also had throwbacks such as an open cockpit, fixed landing gear, and a wire-braced wing *but* it was a step forward.

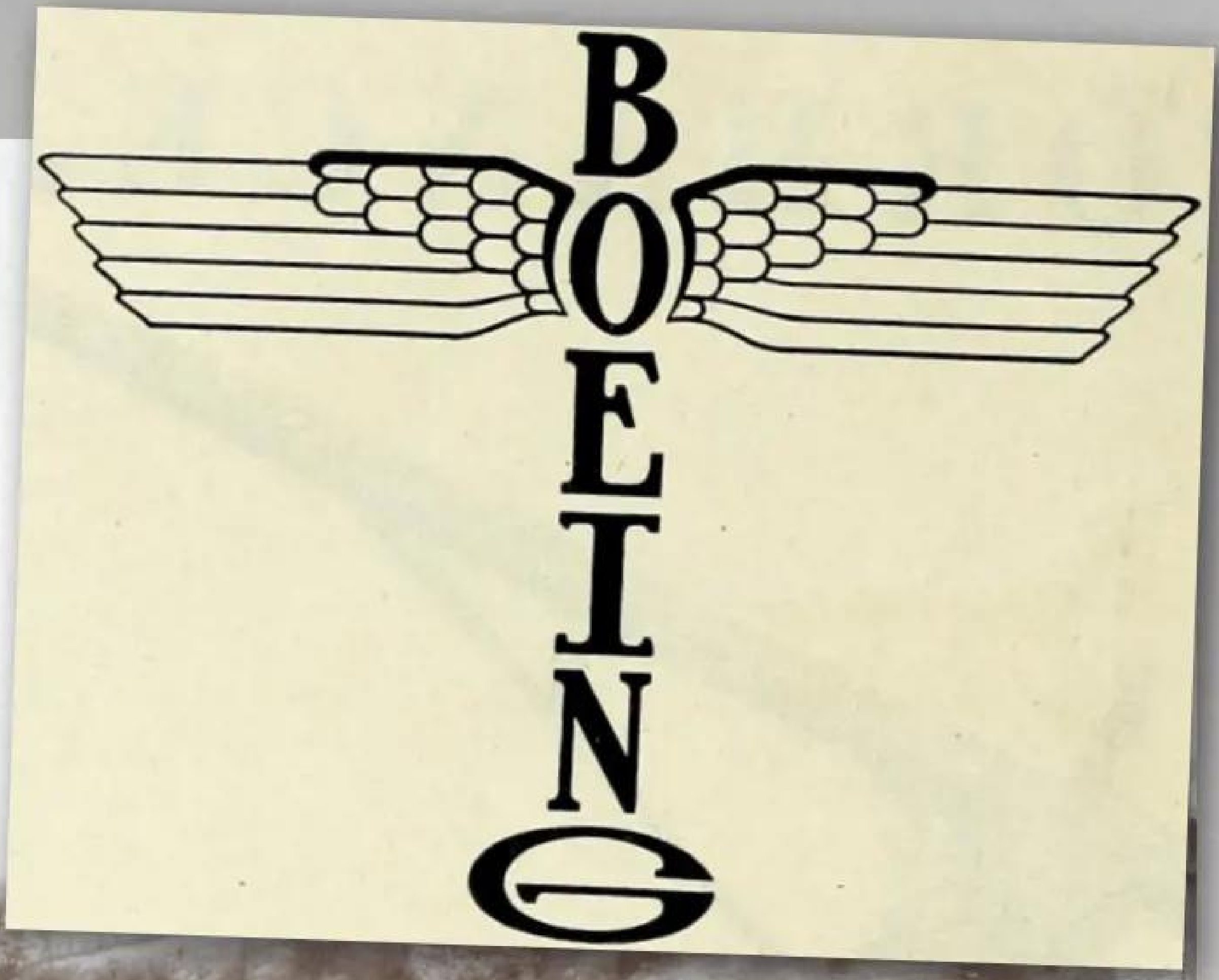
When it came to bombardment aviation, the Air Corps had been saddled with Keystone and Martin biplane bombers. Lumbering, drag-inducing creations, these aircraft offered minimal performance improvements over their Great War ancestors. For example, the Keystone B-5 could hit just 107-mph carrying a 2300-lb bomb load for just 435-miles while flying at 8000-ft. It was obvious such tactical aircraft could be overwhelmed by almost any nation's fighter aircraft.

BENEFITS OF STREAMLINING

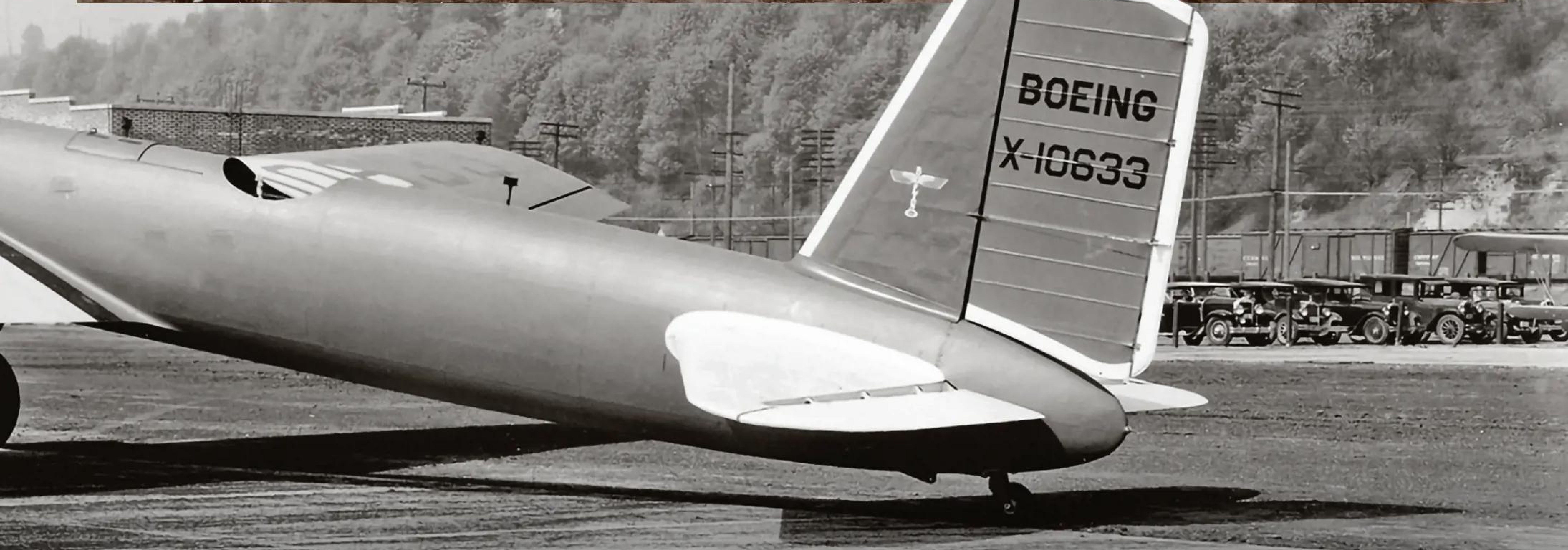
In Seattle, the designers wanted to create a new bomber that would leave the Air Corps' current inventory in the dust. An earlier Boeing milestone had been the Monomail. This streamlined all-metal commercial aircraft was a performance-setter but it did not enjoy profitability. However, the lessons learned with the

Carrying the civil registration X-10633 (civil registrations would soon be modernized to eliminate the hyphen and incorporate the N for USA — becoming NX10633) the prototype sits parked on the ramp at Boeing Field. The scheme was quite colorful for the time and incorporated the Boeing "house" colors of International Orange, Kelly Green, and Boeing Gray. The aircraft would be bailed to the Air Corps who gave it the designation XB-901.


Another view of the prototype at Boeing Field. The early NACA engine cowls gave an extra boost in speed.



The early Boeing logo carried on the vertical tail.

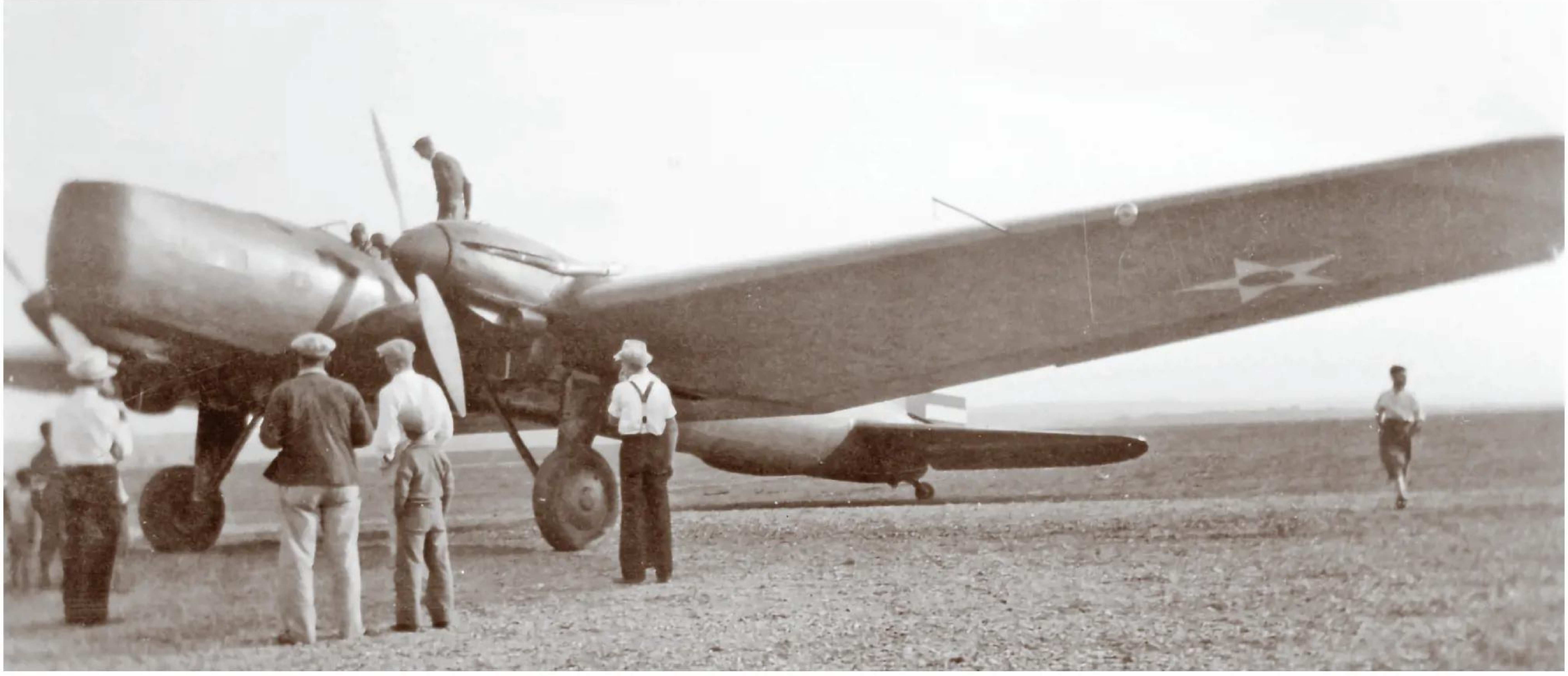


sleek Monomail would be incorporated into an entirely new design.

During 1927, the National Committee of Aeronautics completed work on a 20-foot wind tunnel at Langley, Virginia. Engineers mounted a little Sperry Messenger in the tunnel and through testing discovered that the airframe's drag could be reduced by almost 40% with the addition of retractable landing gear. Then, a Curtiss P-6 biplane fighter was tested in the tunnel and the aircraft's radial engine was fitted with a NACA ring cowl. This modification increased airspeed from 118-mph to 137-mph. NACA published extensive data on these, and other, streamlining modifications and the booklets were distributed to America's airframe manufacturers.

Another revelation revolved around placement of engines. If the powerplant was not installed on the nose, then they were normally placed either above or below the wing or slung between the upper wing and lower wing on twin-engine biplanes. Struts were often used — especially on non-retracting landing gear – and they contributed enormous amounts of drag. At NACA, engineers tried differing engine configurations in an attempt to reduce overall drag and discovered the best configuration was to place the powerplants directly in front of the wing and inside a streamlined nacelle. This arrangement also allowed for a low-wing that permitted a retractable landing gear that could retract inside of the wing.

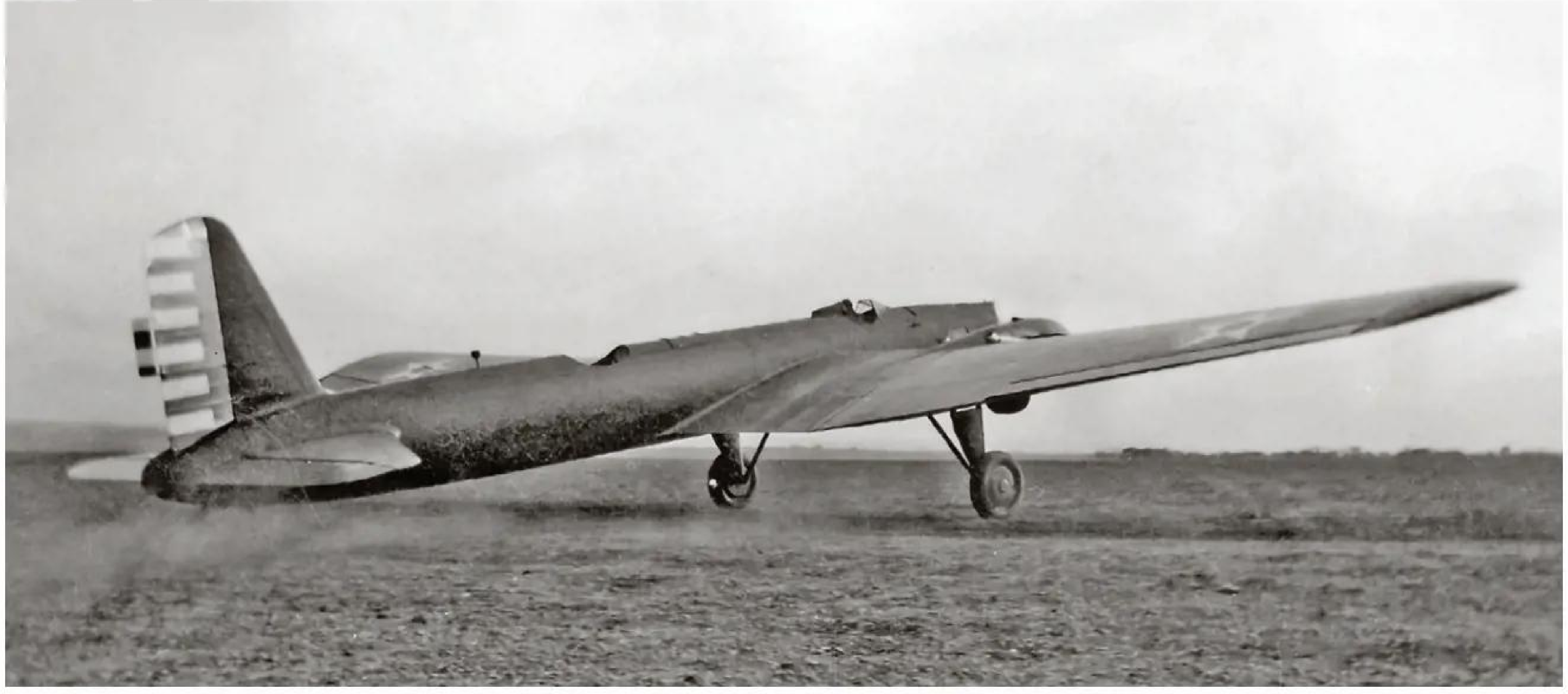
As drag dropped, performance increased and Boeing studied NACA's results and incorporated many into the aircraft that was named the Monomail. The Boeing Model 200 was a definite departure from biplanes constructed of steel tubing, wood, and fabric. It had a single all-metal cantilever wing, a ring cowl, and retractable landing gear. A single example was built and it was extensively evaluated by Boeing and the Air Corps, who gave the design the designation of Y1C-18. However, no orders were received and the plane remained a prototype and



Even though the installation of the Curtiss Conqueror V-12s offered more streamlining, there was actually little in the way of a performance gain when compared to the P&W Hornets. Note the two-blade propellers. Whenever a B-9 landed at a civilian field, the bomber instantly drew a crowd.

was used on Boeing's (when the company was still allowed to have its own airline) San Francisco to Chicago air mail route beginning in 1931.

The shortcomings of the Model 200 were somewhat rectified with the Model 221. This aircraft had the fuselage length increased by eight inches, allowing up to six passengers to be carried in an enclosed cabin. This, of course, decreased the overall mail or cargo payload and as a throw-back, the pilot sat in a cockpit to the rear of the fuselage. The Model 221 went aloft on 18 August 1930. Both the Model 200 and Model 221 were withdrawn from service so that they could be further modified. An extra fuselage stretch allowed for eight passengers to sit inside the cabin.



The Model 214 featured the Curtiss V-12s and the crew positioning differed from the Model 215 (which flew first). As can be seen in this view, the nose gunner position seems to be fared over while the pilot's position does not have the bombardier's position ahead of it and the rear gunner's position is seemingly the only other one on the fuselage. Note the large trim tab on the rudder.

The modified designs were then utilized by United Air Lines on the Cheyenne to Chicago route, usually carrying a combination of passengers and mail. In their own way, the aircraft were successful but failed to attract any other customers. However, gleaming in their polished bare aluminum finishes combined with their sleek looks, they received lots of publicity and became emblematic of a more positive future as America struggled to escape the devastating Great Depression. It seems both Monomails were pulled from service in 1933 and then probably broken up by Boeing. It does not appear they were sold on to other operators.

PROFITS ARE WITH MILITARY ORDERS

Today's Boeing is a monolith plagued with numerous costly problems — most of which are of their own doing. Boeing used

BOEING
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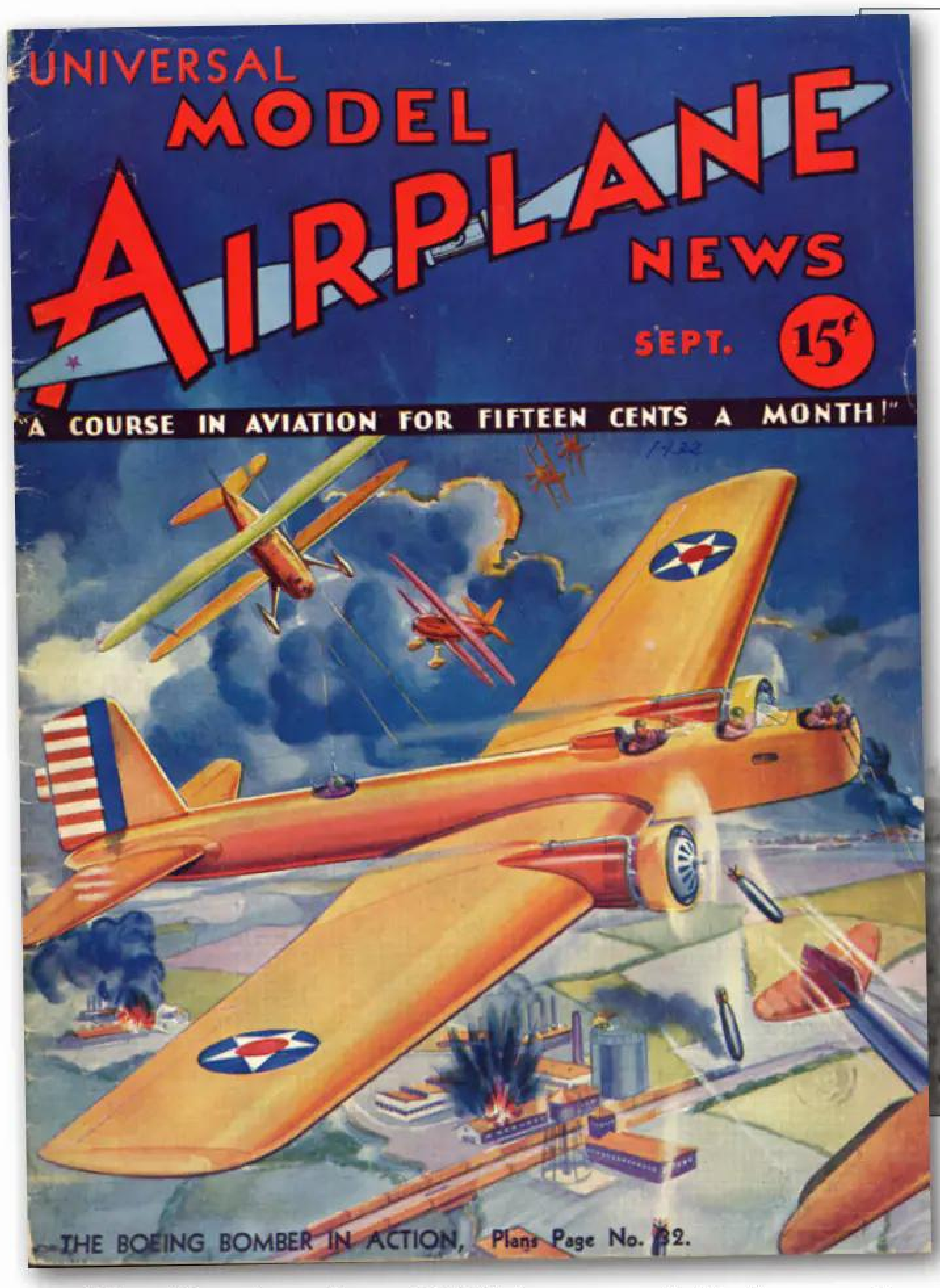
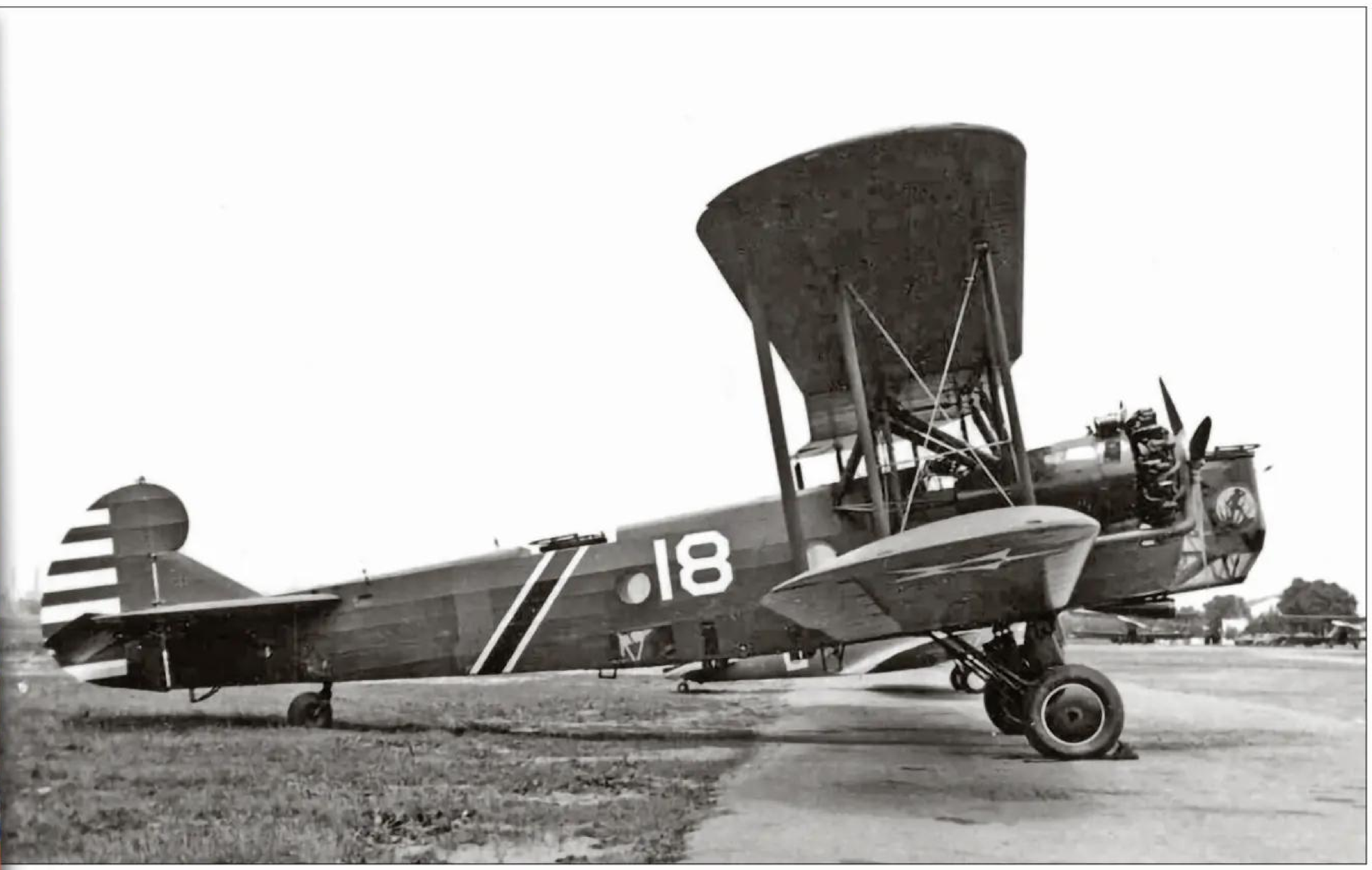
10225

The sleek Monomail contrasts with a Boeing P-12D biplane fighter. The Monomail would lead the company forward with a series of all-metal bombers and transports.


UNIVERSAL
MODEL
AIRPLANE
NEWS
SEPT.
15¢
"A COURSE IN AVIATION FOR FIFTEEN CENTS A MONTH!"
THE BOEING BOMBER IN ACTION. Plans Page No. 32.

The September 1931 issue of *Universal Model Airplane News* offered a colorful B-9 in a daring battle scene on the cover.



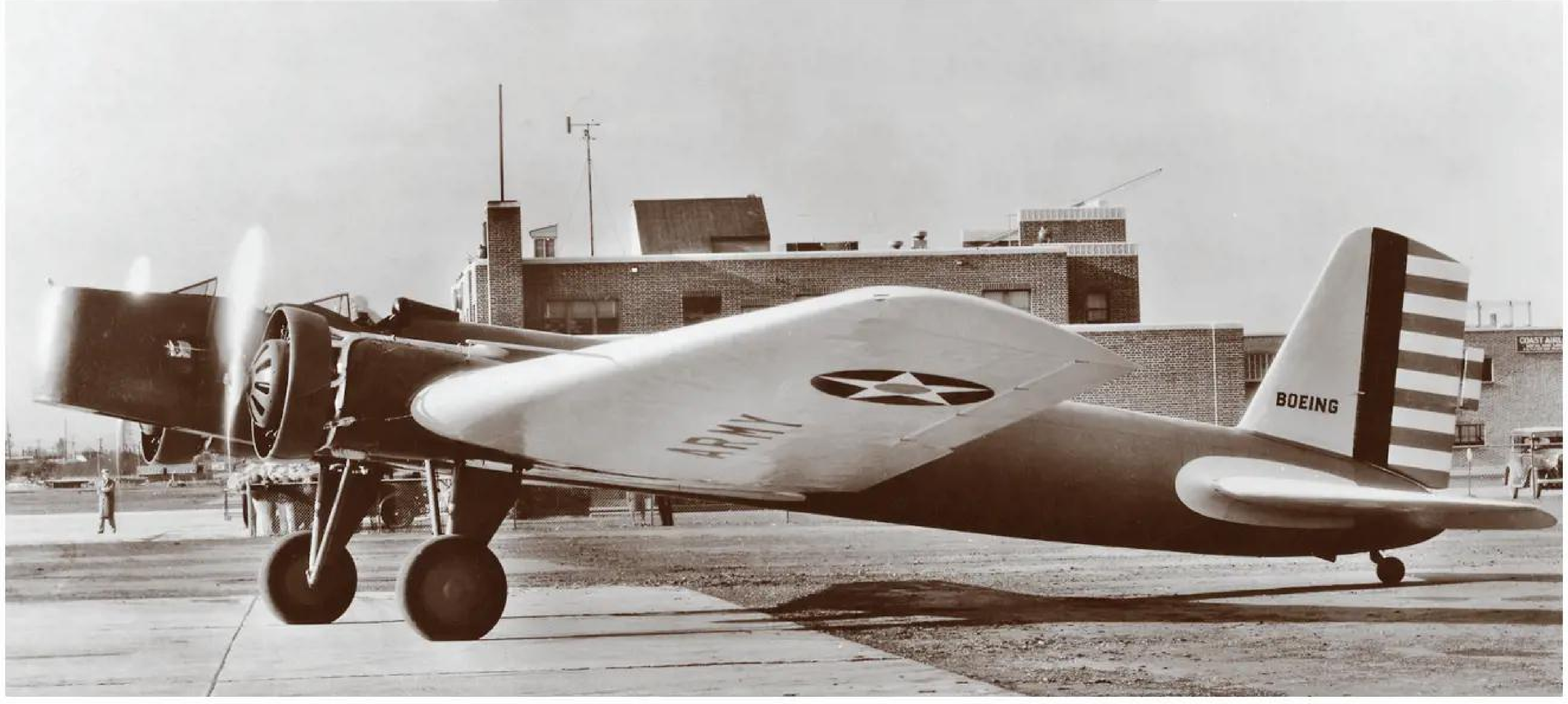
The B-9 series was a quantum leap over the Air Corps' Keystone B-6 and the new Boeings spelled the end for American biplane bombers.

to be a company run by forward-thinking engineers and other aeronautical types. Today, it is a company run by bean-counters and that has been to the historic organization's detriment, as illustrated with the 737 Max. In the early 1930s, the company had the necessary talent but was fighting for survival. Civil orders were slim and military budgets had been slashed but Boeing officials realized money could be made from the military even though demand for new warplanes was greatly reduced. The way to achieve these orders was through innovation. Meetings were held, decisions were made, and Boeing concluded the way to win new orders from the military was to invest some of their own limited funding to create prototypes that would show the Air Corps and Navy what the company was capable of doing.

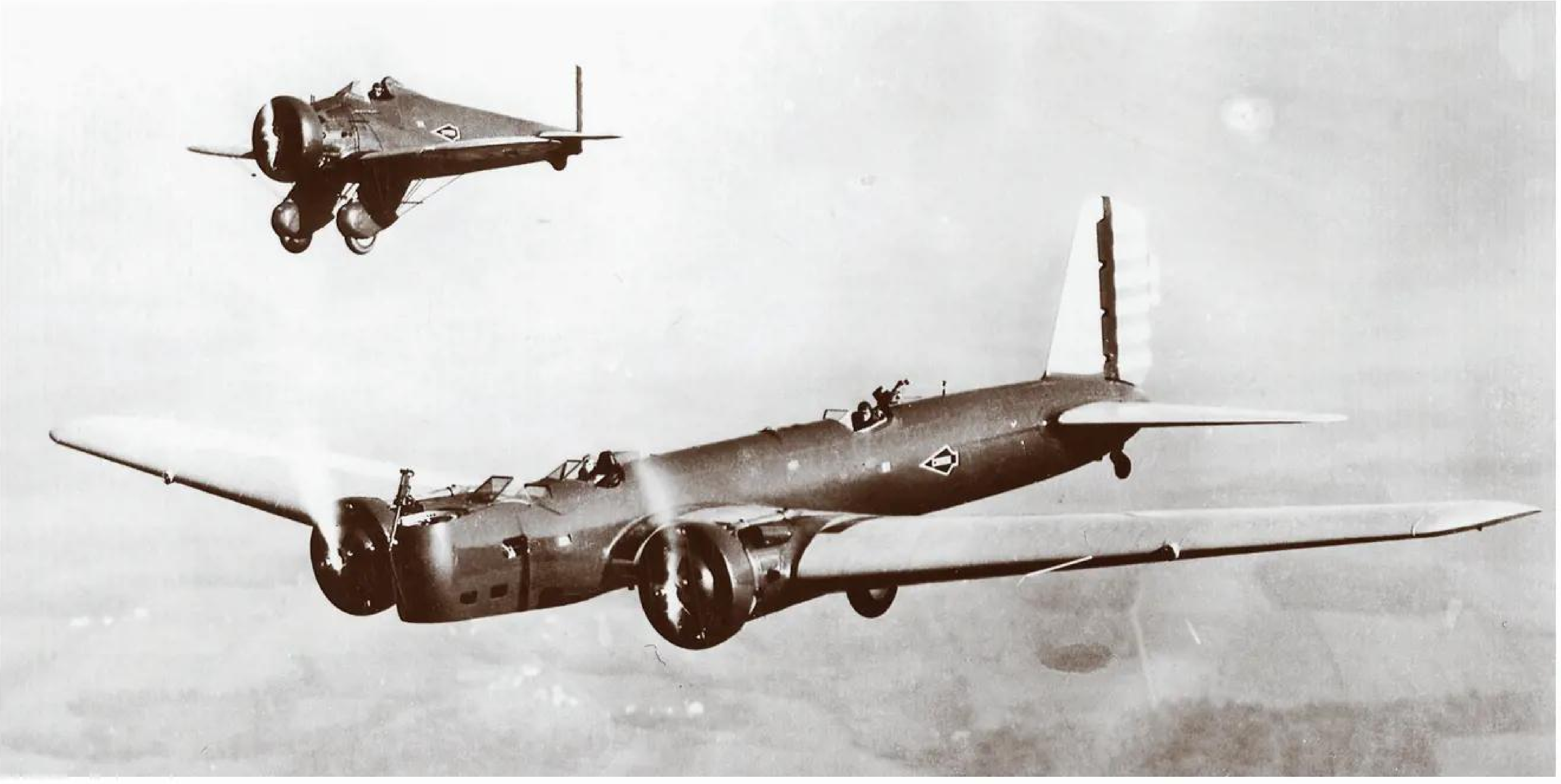
The main Air Corps bomber was the lumbering series of Keystone biplanes that would not have been out of place in the Great War. Obviously, there was no future in these. Boeing designers got to work on the Model 214 and the Model 215 — new bombers that would differ only in the choice of engines. Air Corps officials repeatedly let Boeing know that they had no money to invest in these projects but high-ranking officers that were pilots took great interest in these new designs.

The drawings for these new aircraft were reviewed and the Air Corps made the decision to send five officers and two civilians to Seattle to inspect a full-scale mockup of the Model 215 that had been created in wood by the company's craftsmen. Headed by Maj. Willis D. Hale, the small group arrived on 23 June 1930 and were immediately impressed by the clean design that was a huge leap from the Keystones with which they were familiar. The group made dozens of suggestions on how the actual aircraft could be improved to meet the needs of the Air Corps. However, they also bemoaned the lack of funding for advanced projects and that Congress would have to approve money if they were to move ahead.

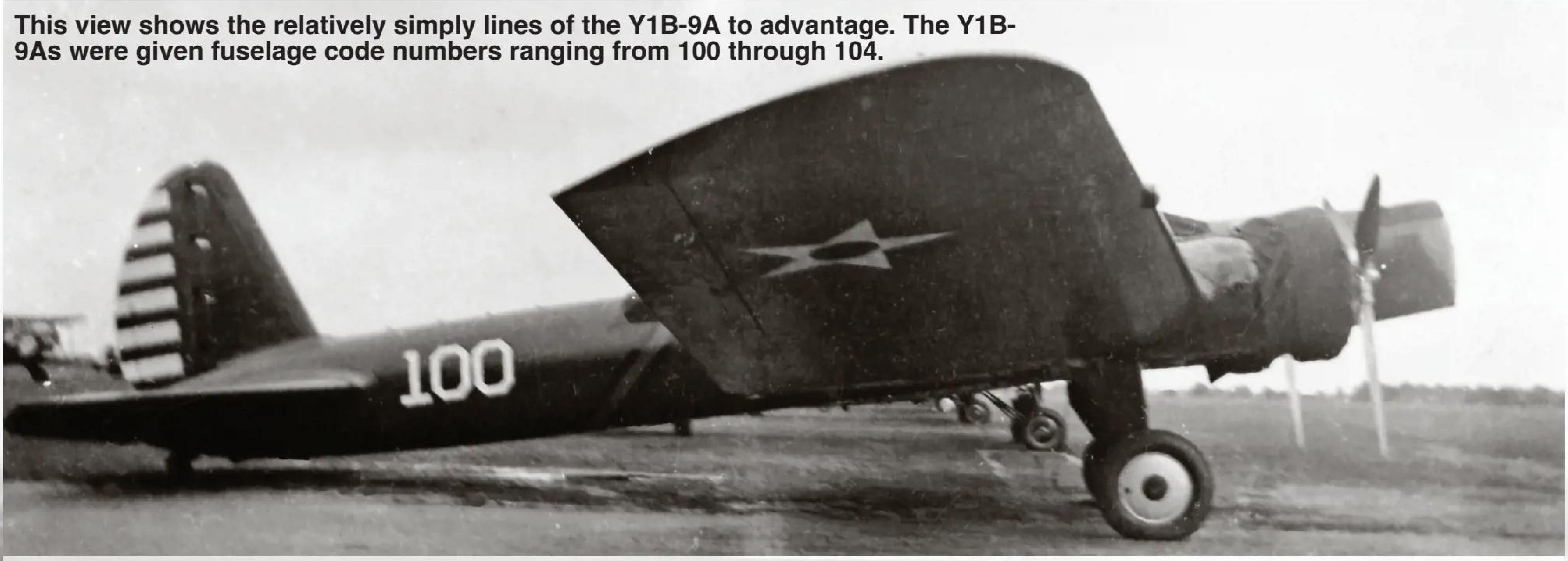
Perhaps the most significant Air Corps recommendation was that Boeing switch the cockpit positions of the pilot and the bombardier. This change in



The YB-9 at the factory wearing its Air Corps colors of gloss Olive Drab fuselage gloss Insignia Yellow flying surfaces.



Boeing publicity people loved to contrast the B-9 with other aircraft and in this view the bomber is in formation with a Y1P-26 and both planes carry the Wright Field "arrow" on the fuselage sides.

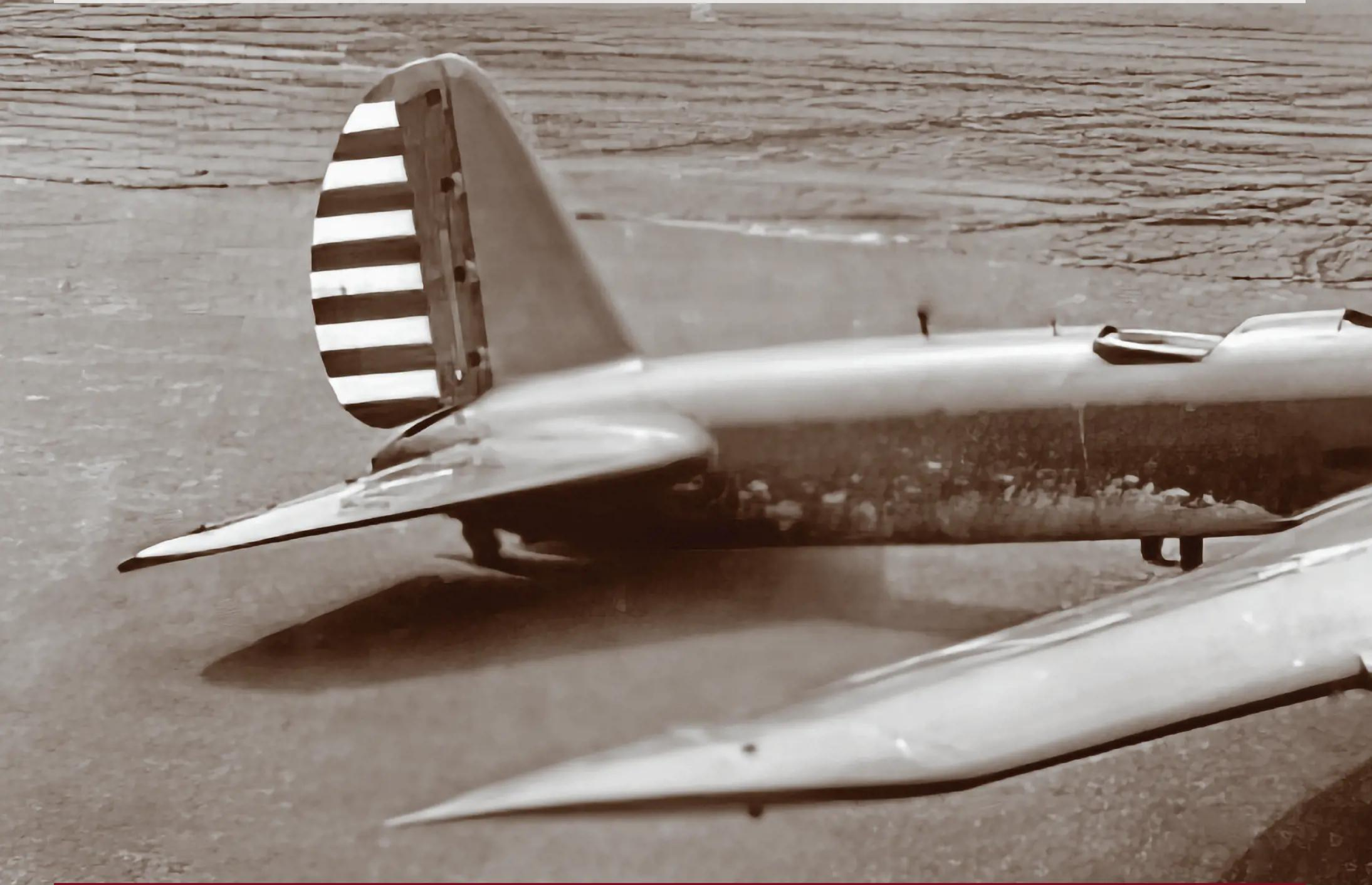


This view shows the relatively simply lines of the Y1B-9A to advantage. The Y1B-9As were given fuselage code numbers ranging from 100 through 104.

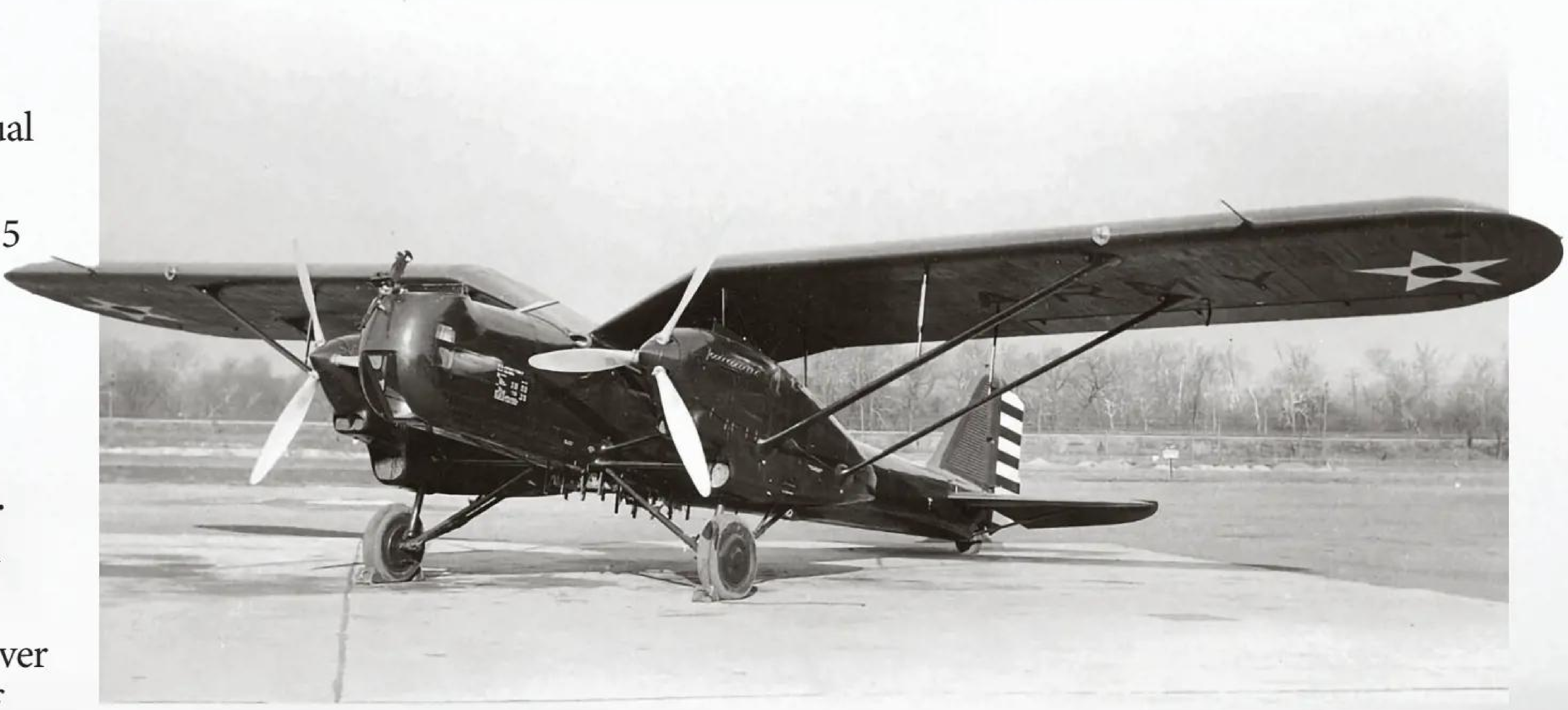
location provided the pilot with a much better view to the rear along with less loss of forward vision while having the incidental value of reducing the length of control cable runs. There were more than 50 suggestions on how the cockpits should be configured with instrument and control layouts. All engine instruments were required to be placed directly on the nacelles of the engines. They had to be indirectly lit and well-protected from rain and weather.

It was obvious the Air Corps inspectors were enthusiastic about what they were seeing and this led to even more suggestions. Emergency fold-away dual controls were recommended to be fitted to the bombardier's position and this was a wise move since it would give the crew and the aircraft a chance of survival if the pilot was incapacitated. Major Hale recommended that the external bomb racks be modified so that the single battleship-busting 2000-pound bomb could be carried as an alternate load. Going a step further, he asked that Boeing consider widening the mid-section of the aircraft so bombs could be carried internally. Bob Minshall, chief designer for the B-9, did not care for this since it meant a redesign and Boeing had already spent its design budget. So, the suggestion was dropped but it was picked up, along with many other features, for the forthcoming Martin B-10.

Mockup inspection completed,



Excellent high-angle view of a Y1B-9A shows all the crew positions to advantage along with the over the wing exhausts for the Hornet radials.



The Douglas XB-7/Y1B-7 became a surprising rival to the B-9 series. Even though it featured some antiquated construction techniques, the aircraft was not a bad performer.

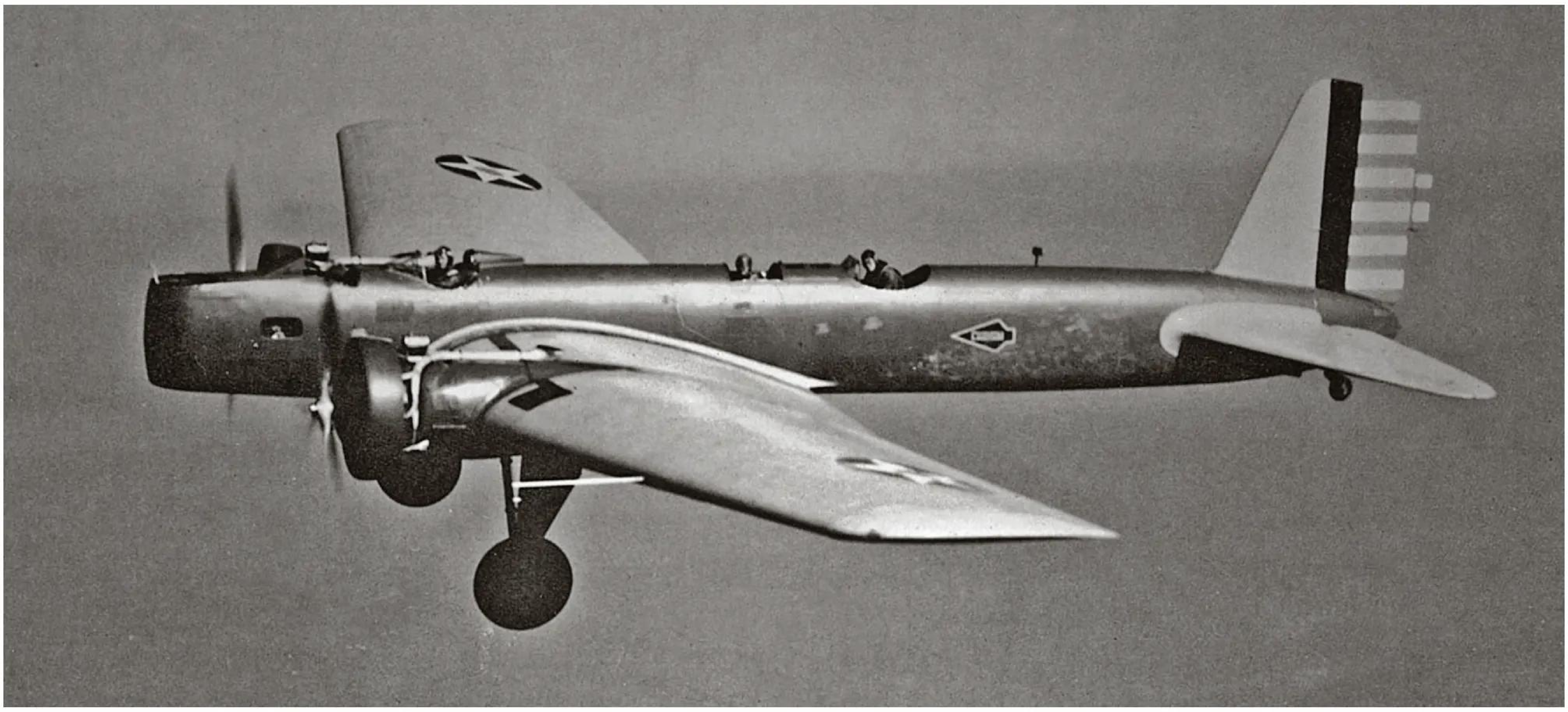
Boeing was pleased with the response from the Air Corps and the company began "cutting metal" to create the actual aircraft. To show how quickly things could be done back then, the Model 215 (fitted with radial engines) made its first flight on 13 April 1931. The color scheme was quite elaborate and attractive, consisting of International Orange, Kelly Green, and Boeing Gray. The plane also carried an experimental civilian registration. After initial flight testing by Boeing, the Air Corps took over and gave the aircraft the designation of XB-901 while Congress eked out some funding for a new bomber project.

The XB-901 went to Wright Field but pilots and engineers gave it the derogatory name of "tissue paper bomber" since the metal skin (especially on the rear fuselage) constantly wrinkled and flexed while in flight. The long rear fuselage had a tendency to oscillate disconcertingly in flight and this brought forth negative comments from the test pilots.

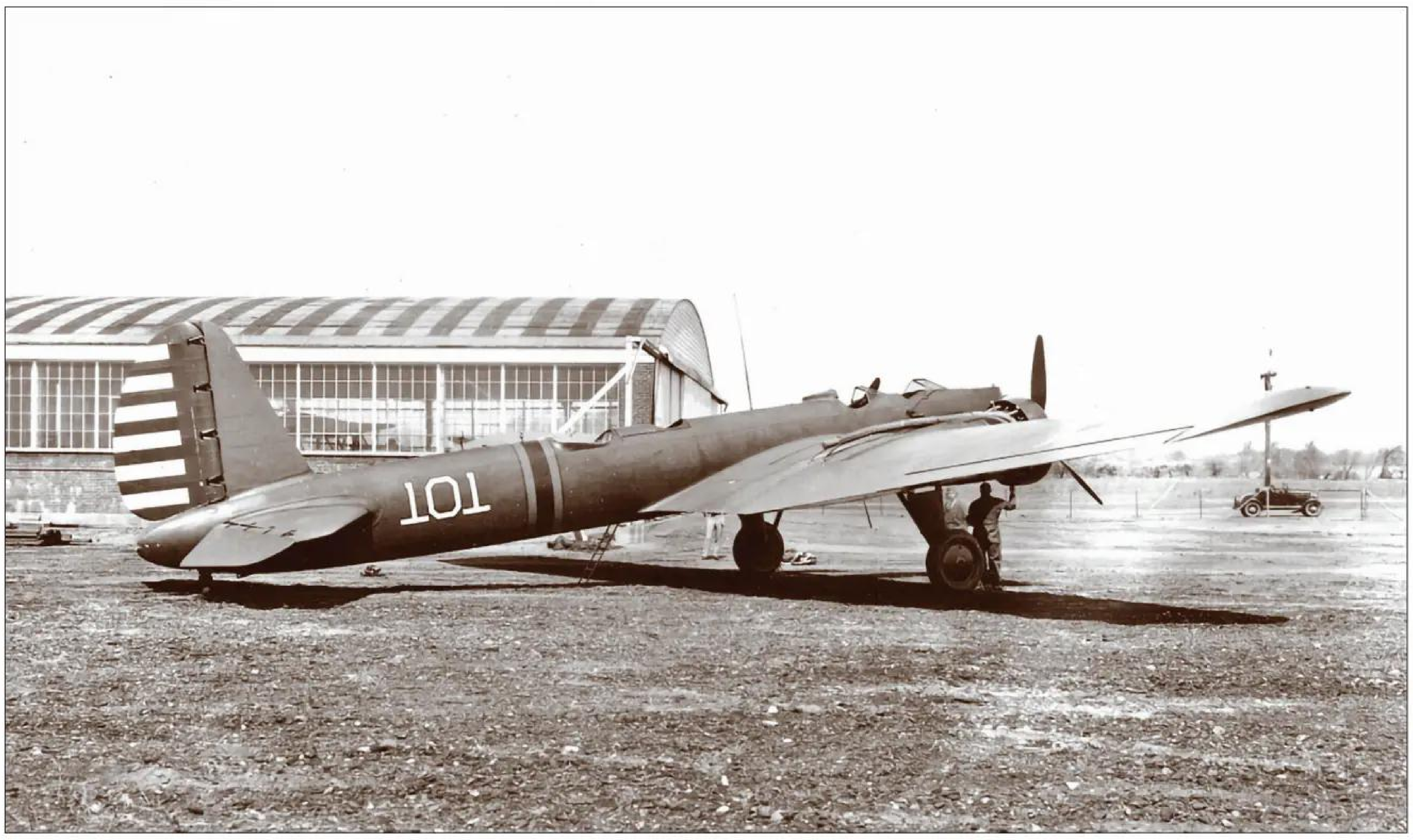
Other companies were eager to get their hands on the Air Corps' new-found money and one of those was Ford. That company took a basic 5-AT Tri-Motor airframe, fitted it with a single pilot cockpit, bomb racks, and gun positions and it became the XB-906. Considering this was an older design, it actually fared well during testing in regards to performance — even with its fixed landing gear.

Fitted with Pratt & Whitney R-1830-13 engines of 575-hp each, the XB-901 turned in a top speed of 163-mph at sea level compared to the XB-906's 144.6-mph. As altitude increased, the gap narrowed until, at 10,000-ft, the Ford was actually faster — 156-mph to 152.7-mph! The Seattle bomber had a 19,400-ft service ceiling, just 1000-ft more than the Tri-Motor and it had a slightly better rate of climb.

However, when it came to flying



Y1B-9A on a test flight over Wright Field. Note the second from last opening in the fuselage. This may have been the position for the radio operator that Boeing considered to be superfluous.



Y1B-9A visiting Schenectady Airport and displaying an unusual style for the fuselage "101" code. Note that this view also shows five openings on the fuselage and has a multi-color band on the rear fuselage, which may indicate a squadron commander even though there was not a squadron of B-9s. Also note the increased length of the exhaust compared to the earlier photo.

SPECIFICATIONS BOEING Y1B-9A

Span	76-ft 10-in
Length	52-ft
Height	12-ft
Wing Area	954-sq-ft
Empty Weight	8941-lbs
Max Weight	14,320-lbs
Max Speed	188-mph @ 6000-ft
Cruise Speed	165-mph
Ceiling	20,750-ft
Range	540-mi
Climb	900-fpm (initial)
Armament	2 .30-cal machine guns; 2260-lb bomb load
Powerplant	Pratt & Whitney R-1860-21 Hornet B radial of 600-hp each

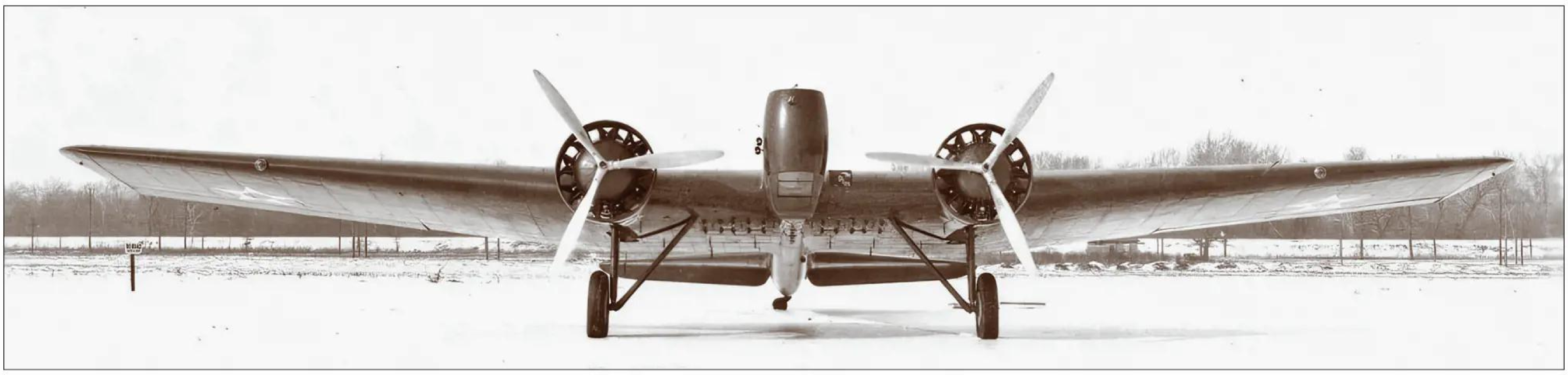
qualities there was no comparison. The Boeing was rated as excellent while the Ford was criticized for high stick forces, very poor visibility, excessive altitude changes with changes in power settings, and extremely heavy vibrations at low power settings. Also, the front gunner's position was considered absolutely useless since the slipstream made the gun impossible to position with any effectiveness.

Considering all the comparisons, the Board of Officers, again headed by Maj. Hale (including three future generals — Capt. Eugene Eubank, 1st Lt. Hugo P. Rush, and 1st Lt. Ralph A. Snavely), issued a report that praised the XB-901. At that point, every item was considered and commented upon favorably including flying qualities, performance, structure, and armament. At that point in time, the Air Corps concluded that the XB-901 was probably the best bomber in the world. It would be just a fleeting moment.

Although not figuring directly in the comparison, the Board had also inspected and tested the Douglas XB-7 — an attractive monoplane with retractable landing gear, metal fuselage, and fabric-covered gull wing. While full data had not been obtained, the aircraft was obviously fast and capable. The Board reasoned, however, that the Boeing was such a remarkable advance in bombardment aviation that it should be purchased in sufficient quantity to equip a squadron for service testing.

Henry Ford, who held a great deal of political power, was not pleased with the announcement choosing the Boeing design. A letter was drafted to the Board stating that all the faults they found with the Ford could be corrected in easy steps. Ford also said that the company was entitled to receive an order so that the Detroit area would retain an aircraft

Aircraft 101 running up its Hornets. Note how the nose of the aircraft has been painted with what appears to be a squadron insignia.



Head-on view of a Y1B-9A shows the broad, thick wing to advantage. Also of note are the bomb shackles under the center section.

production capacity.

At this point, Lieutenant Colonel Henry “Hap” Arnold stepped in since he was given the task of implementing the Board’s extensive recommendations. He did this in a letter dated 6 August 1931 to the Chief of the Air Corps. To quiet Ford, he suggested that the XB-906 be purchased to help pay at least part of Ford’s development expenses. Then, in a rather interesting turn, he suggested that a Service Test Program be established and this meant that a full squadron of B-9s would *not* be purchased — the money being divided for seven B-9s (as the Air Corps had now designated the bomber) and seven B-7s.

Most of this decision could be attributed to money — or the lack of it. The first two Boeings had been penciled out to cost $100,000 each while the next five would be $87,875 each. To contrast this, Douglas stated that each B-7 variant would cost just $30,400 each.

Arnold changed a number of the Board’s recommendations. The Board wanted a “tunnel” gun to be installed in the belly and Arnold scratched that off the list, stating the narrow fuselage of the B-9 would let the rear gunner have a field of fire going almost straight down. Arnold also wanted the fuel load increased from 308 to 525 gallons and the B-9’s broad and thick wing had plenty of room for extra fuel tanks.

Obviously, Boeing was disappointed that their “squadron” had been reduced. The standard service test quantity (13) of aircraft (the Y1B part of the designation) would have given them a far better chance to earn a return on investment. Disappointment aside, the workers got busy on building the new bombers after a contract was signed on 21 August 1931. The total sum of $696,324 would cover two prototypes, five Y1B-9As, spares, manuals, and blueprints. In 2025 dollars, that equals $13,266,745.

The prototype was upgraded and finished in Air Corps colors of Olive Drab fuselage and Insignia Yellow flying surfaces and flown to Wright Field while the Y1B-9 was finished on the line in Air Corps colors and markings, becoming airborne for the first time on 5 November 1931.

Flight testing at Wright Field revealed that the new bomber could outrun everything except for the very latest fighter designs. Testing was exhaustive and the Wright Field labs particularly examined fatigue life of the aircraft’s components.

Two of the numerous test pilot reports have an indication of the extent of testing and the degree of the success achieved by Boeing. A report written by Lt. Levi L. Barry on 2 February 1932 examined the performance of the YB-9 fitted with P&W SG1R-1860B radials mounting three-blade metal propellers. At a gross weight of 13,531-lbs while carrying two 1000-lb bombs, the aircraft indicated 188-mph at 6000-ft. The fighters based at Wright could not catch the aircraft. Even with the gear down, the YB-9 hit 172.5-mph at a setting of 1920-rpm. The takeoff distance was a bit less than 1200-ft and, even without flaps, the thick and broad wing allowed a very low landing speed of just 63-mph. Now, as a point of interest, the local press quickly sensationalized the aircraft and gave it the yellow journalism

The Martin XB-907 would evolve into the B-10 and spell doom for the B-9 series.

name of "Death Angel" — a name never used by Boeing or the Air Corps. The press also referred to the bomber as a "flying fortress" and that certainly predated the use of that name by the B-17.

The B-9's long and slender fuselage resulted in an interesting crew placement. The gunner was located in the extreme nose, followed by the bombardier, pilot, and then the rear gunner. A radio operator could also be carried but Boeing considered this position as an "overload."

Lieutenant Berry also went on to state that the narrow pilot's cockpit was comfortable and fairly easy to climb into. The bombardier's position was considered to be hazardous to enter — a long fall was possible and there was something disconcerting about the big propellers turning over at one's elbows. The mechanical landing gear also came in for complaints. Raising the gear required the combined coordination and effort of two of the crew struggling in the narrow cockpit and they needed one brief rest period before they could get an up and locked indication. Lowering the gear was not much better and Berry noted that on one flight, some 2300-ft was lost in the glide while the gear was coming down. Thus, the following Y1B-9As had an electrically powered system with a manual back-up.

During December 1932, Capt. Victor Strahm undertook a series of flights to determine single-engine capabilities. With a full load, level flight could be maintained on either engine at 4200-ft, which was impressive when one considers that the propellers were not full-feathering. Considerable rudder force was required. It was impossible to hold a straight course with rudder only, the use of the Flettner balance tabs being essential. With the right engine shut down and the left at full power, a violent tail flutter was induced, requiring a power reduction but not otherwise impairing the single-engine capability.

By early 1932, the Y1B-9 with Curtiss CIV-1570C-29 Conqueror V-12 engines was under test. Serial USAAC 32-302 weighed 8618-lbs empty, some 356-lbs more than the YB-9. Differences in equipment and ballast reduced this to 240-lbs at the maximum gross weight, the Y1B-9 weighing 13,591-lbs compared to the YB-9's 13,351-lbs.

The YB-9, whose -11 series Hornet radials also put out 600-hp, had a significantly better performance than the Y1B-9 in every area. As the radial engines unquestionably had more drag, the difference could have been attributable to the propellers. The Hornet carried an 11-ft 6-in prop with 30.5-deg of pitch at the 42-in station while the Conqueror had a 9-ft 10-in prop with a 22.2-deg pitch at the same station.

With two bombs weighing a total of 2050-lbs, the Y1B-9 hit 173.5-mph at 2445-rpm at 6000-ft and 156-mph at 2280-rpm at 15,000-ft. As previously noted, its radial-engine sistership indicated 188-mph at 6000-ft at 2020-rpm and 177-mph at 15,000-ft at 1950-rpm. The YB-9 had a 3400-ft advantage over the Y1B-9 at its service ceiling of 22,600-ft.

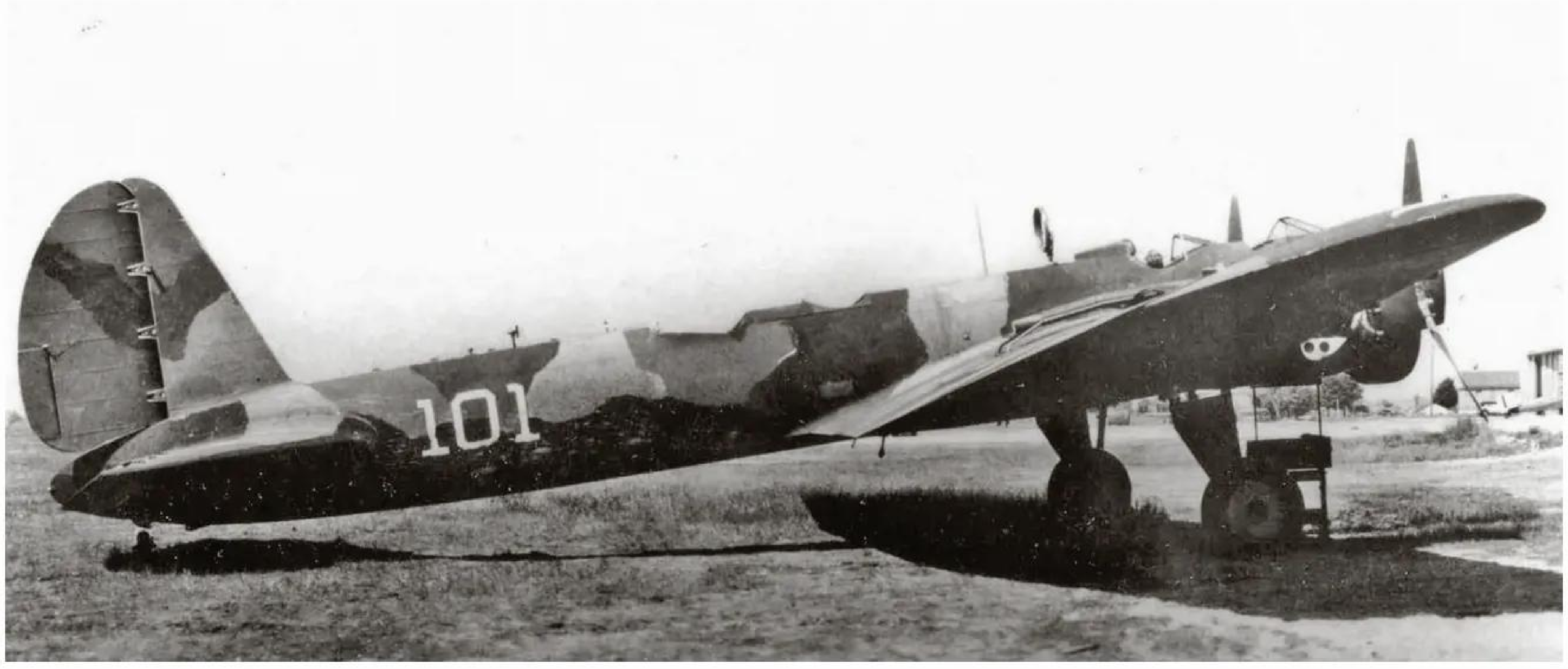
After further tests with a supercharged GIV-1570F, the Y1B-9 was converted to the production Y1B-9A standard by installation of the Hornets and this was completed on 31 December 1932.

Boeing delivered the last of the five service test Y1B-9As (Model 246) by March 1933 and while their outward appearance to the prototypes was very close, there were numerous interior changes and refinements. The vertical fin and rudder were completely revised with a new shape that would later appear on the Boeing 247 airliner. The major differences were in details that improved ease of maintenance and service. On the prototypes, it had been necessary to remove the exhaust system prior to removing the upper engine cowling. New oil coolers were installed, replacing the jury-rigged standard Air Corps types that had been placed on the XB-901. The planes had originally been designed without a firewall and had been equipped with P&W air intake oil coolers. When the Air Corps required Boeing to install the firewalls on a rush basis, the oil coolers were bolted to the outside of the cowling as an obvious afterthought.

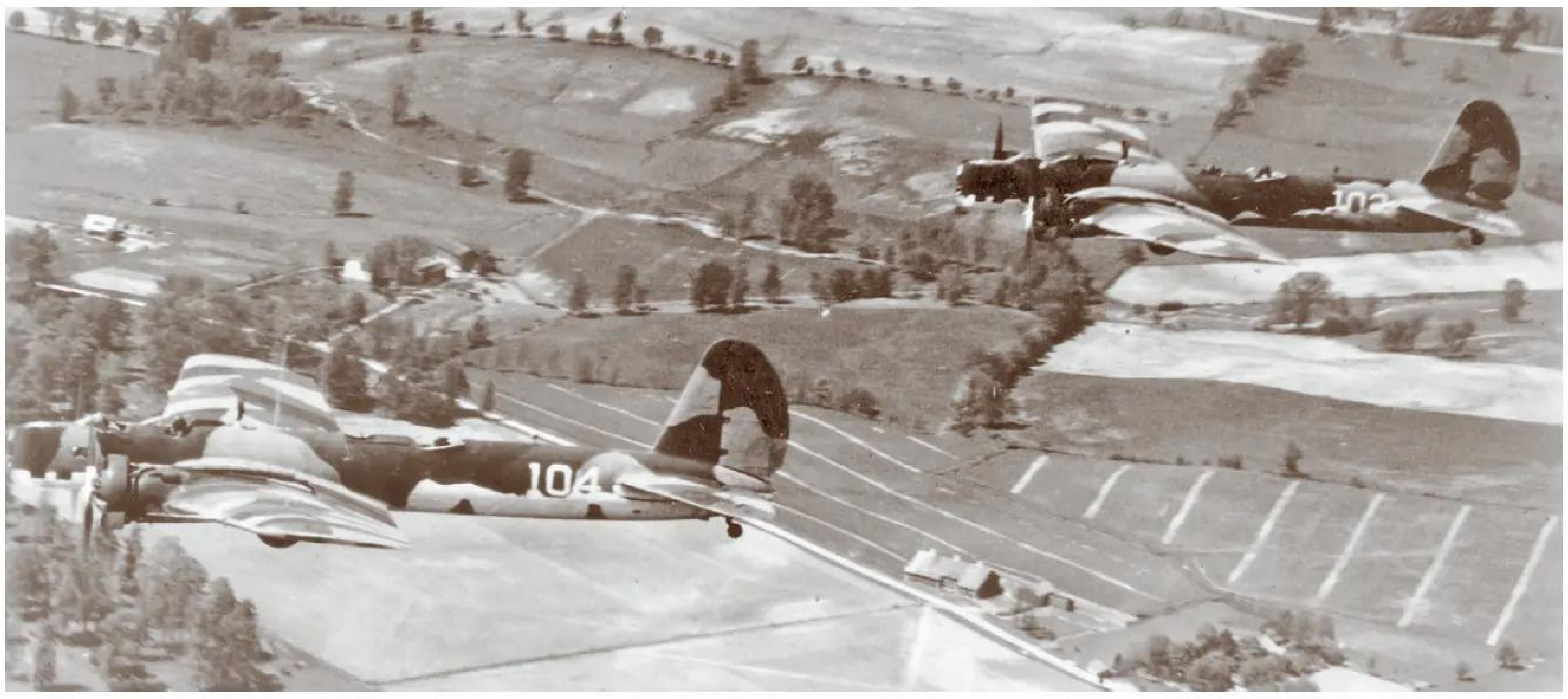
Service test trials were long and exacting (perhaps because the Air Corps did not have really much other stuff going on during this time) but it should be noted that the total flight times were very low by today's standards. The original YB-9 was based at Wright Field for its career. The aircraft recorded just 161 flight hours before being surveyed on 26 December 1934. Surveyed meant that useful items were removed and the airframes were then used for target/fire practice or simply scrapped. The aircraft's record card indicates one landing accident that was apparently quite minor. The Y1B-9 also stayed at Wright Field before being surveyed during September 1933 with 151 flight hours.

The Y1B-9As seemed to fare a bit better. Air Corps 32-303 initially went to Wright Field before being transferred to Langley Field, Virginia, and that is where it recorded the majority of its 309 flight hours. During May 1933, the service test aircraft were extensively flown since this was the time for the massive annual war games. On the 8th of that month, 32-303 led an attack that "obliterated Cincinnati" — this statement was recorded by the judges. During that month, 32-303 logged 62 flight hours and most of the others had similar amounts of time added to their logbooks.

Air Corps 32-304 also initially went to Wright but then flew back and forth between that base and Langley Field for most of its life. The B-9s often landed at civilian fields to show taxpayers how their money was being spent during those trying times. Eventually recording 278 flight hours, 32-304 was surveyed during April 1935. Air Corps 32-305 was based at Langley and flew 276-hrs before being surveyed on 21 May 1934.



Aircraft 101 in temporary war games camouflage. Water-based, it still took a lot of scrubbing to remove the finish. Note the large ADF loop immediately behind the pilot.



Y1B-9As race along at low-level during the war games. The aircraft would have to rely on its speed to escape "enemy" fighters. The B-9 series did not have any armor nor bullet-proof fuel tanks and defensive armament consisted of just two .30-caliber machine guns.

For the fleet, the high time honors went to Air Corps 32-306. This bomber recorded 371 flight hours between March 1933 and March 1935. When it was surveyed that month, all but 53-hrs were recorded during operations from Langley Field.

The fifth Y1B-9A, 32-307, met a bad end. Carrying the code 190 on the fuselage, the bomber lifted off from Logan Field in Baltimore on 25 June 1933 for a night training mission. The aircraft was scheduled to recover at Langley Field. Pilot was 2nd Lt. Lewis Horvath with copilot 2nd Lt. H.W. Macklean and the pair apparently ran into problems some two hours into the flight. They could make out the James River in the darkness and set up to bring the bomber in gear-up about one mile from Rushmere Island. The dark night and the flatness of the water apparently caused visual difficulties and the nose of the plane hit first. This caused the bomber to break in half and quickly sink with just the top of the vertical tail protruding from the river's surface. This was the only fatal accident for the B-9 fleet.

The introduction of the Martin B-10 put a quick end to any further development of the B-9. Boeing did try to progress with the B-9B, which had a sliding canopy between compartments along with other improvements but the Air Corps realized the day of the B-9 and come and gone in a rather quick manner. The B-10 not only performed much better than the B-9 but was also considerably less expensive to acquire.

Even though the production contract was much smaller than Boeing had hoped for, the B-9 helped the company gain dominance in the field of multi-engine all-metal aircraft that would include such planes as the Model 294 (XB-15) and Model 299 (B-17) and establish Boeing as one of the great aircraft builders. Unfortunately, no thought was given to preserving a pioneering B-9 and today not even one B-9 component exists. This is unfortunate because the B-9 became a hallmark not only for Boeing but also for the Air Corps and the United States. **AC**

AVOIDABLE DISASTER

THE NATIONAL TRANSPORTATION AND SAFETY BOARD HAS RELEASED ITS REPORT ON THE TRAGIC MID-AIR COLLISION BETWEEN THE COMMEMORATIVE AIR FORCE'S FLYING FORTRESSS AND KINGCOBRA

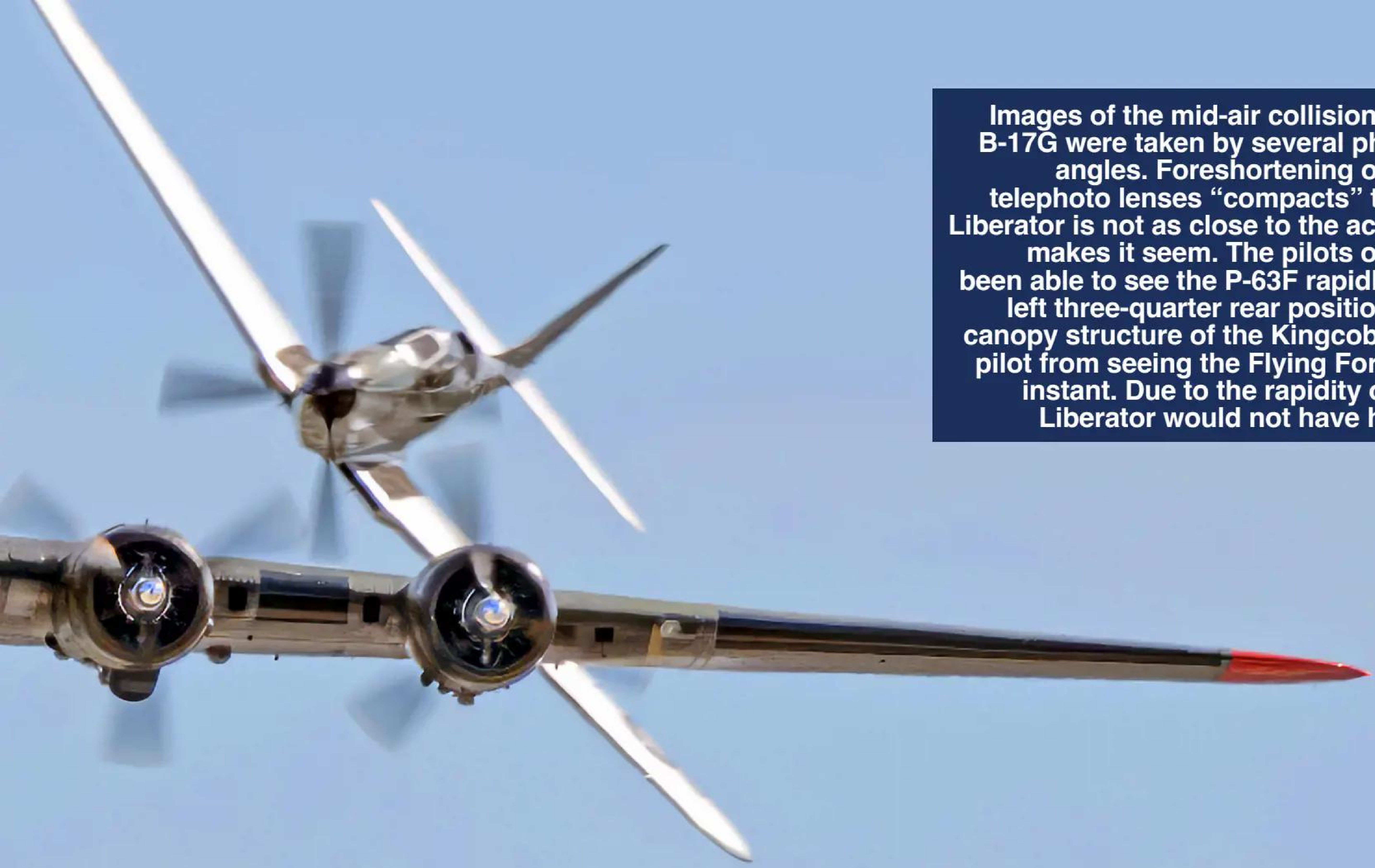
REPORT AND PHOTOGRAPHY VIA THE NTSB

EDITOR'S NOTE: During December 2024, the NTSB released its report on the deadly collision between the CAF's B-17G and P-63F — an accident that claimed the lives of five fine men and the destruction of two historically significant aircraft. To many of us that are long-time airshow attendees, the causes of the accident were pretty obvious from the beginning but we wanted to wait on the results of the final report before making any comments. In fact, we are not going to make any comments but will let the report stand by itself. There is a certain element that will accuse *Air Classics* of being sensationalist or insensitive by printing the report and photographs. However, and as we have stated numerous times in the past, to learn by our mistakes we must view our mistakes. The NTSB report leaves a lot to think about and its conclusions will hopefully change the airshow world for the better. As usual, we welcome reader comments at *moleary2challenge@gmail.com.*

On 12 November 2022, at about 1322 Central Standard Time, Boeing B-17G N7227C and Bell P-63F N6763 collided in flight during a performance at the Commemorative Air Force's (CAF) Wings Over Dallas airshow at Dallas Executive Airport (KRBD). The pilot, copilot, flight engineer, and two scanners on board the B-17G and the pilot of the P-63F were fatally injured and both aircraft were destroyed. No injuries to persons on the ground were reported. Both accident airplanes (and six other historic, former military airplanes were airborne as part of the same performance) were operated by the CAF under the provisions of Title 14 Code of Federal Regulations (CFR) Part 91 and a certificate of waiver for the show.

The B-17G was in the first position of five historic bombers flying as solo aircraft in trail, and the P-63F was in the last position of three historic fighter airplanes flying in formation. The takeoffs, repositioning turns, and passes over the eight airplanes in the accident performance were directed in real time via radio by the air boss, who had primary responsibility for the control of airshow operations.

Just before the accident, the bomber group and the fighter formation completed a pass in front of the spectators from show right to left (that is, right to left from the crowd's perspective). The airplanes were setting up for the next pass when the accident occurred. This pass was intended to be from show left to right in front of the crowd, and the air boss issued directives for the fighter formation to pass off the left side of the bomber group airplanes and then cross in front of them. The position data showed that the flight path for the fighter lead and position 2 fighter airplanes passed the bombers off the bombers' left side before crossing in front of the B-17G but the P-63F's flight path converged with that of the B-17G. Video and photographic evidence captured by witnesses on the ground showed that the P-63F was in a descending, left-banked turn when it struck the left side of the B-17G near the trailing edge of the left wing, then both airplanes broke apart in flight.



Images of the mid-air collision between the P-63F and the B-17G were taken by several photographers from different angles. Foreshortening of the subjects by the use of telephoto lenses "compacts" the images. In this shot, the Liberator is not as close to the accident aircraft as the image makes it seem. The pilots of the B-17G would not have been able to see the P-63F rapidly overtaking them from the left three-quarter rear position. Also, the bank angle and canopy structure of the Kingcobra would have blocked that pilot from seeing the Flying Fortress until the last possible instant. Due to the rapidity of the event, the crew of the Liberator would not have had time to radio a warning.

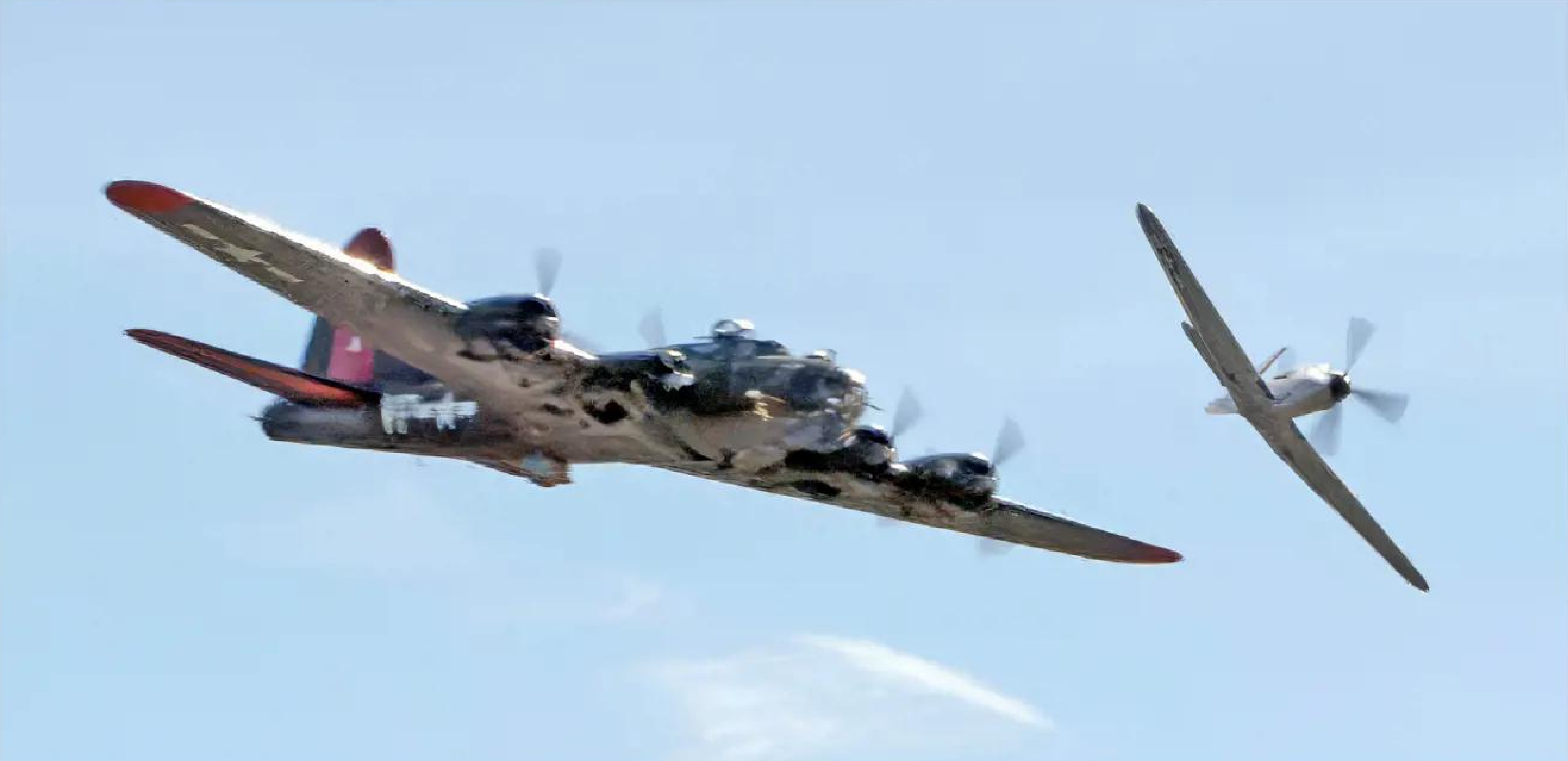
WHAT WE FOUND

We (the NTSB) found that the accident pilots had limited ability to see and avoid each other's airplane due to flight path geometry, out-the-window view obscuration by aircraft structures, the attention demands associated with the airshow performance, and the limitations of human performance that can make it difficult to see another aircraft.

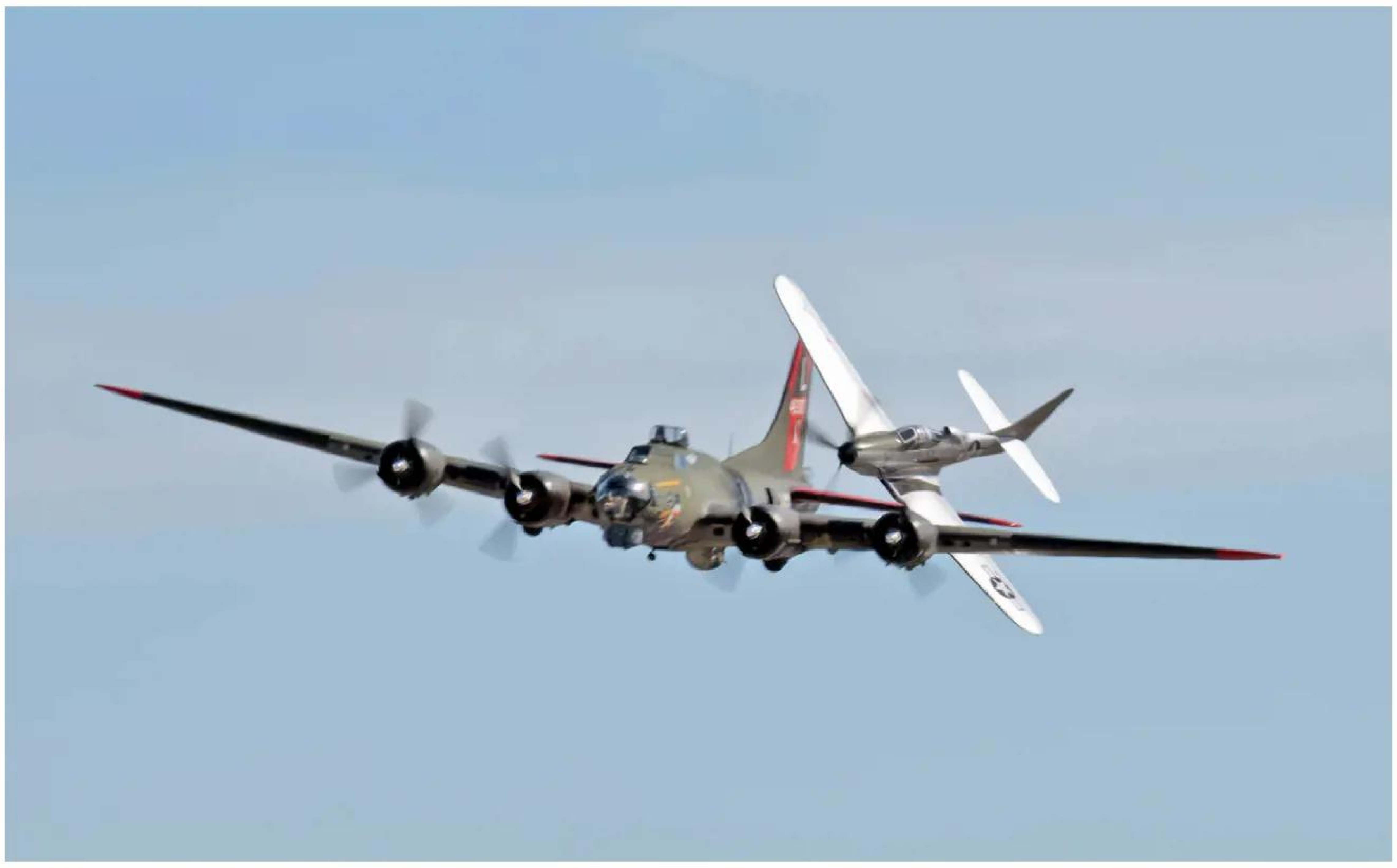
We also found that the air boss's deconfliction strategy for the accident performance, which relied on the air boss's real time, predictive assessment of airplane locations and the ability of the CAF pilots to see and avoid other airplanes was ineffective because the flight paths of the B-17G and the P-63F converged as each pilot maneuvered to set up for the pass.

We found evidence that the airshow guidance provided by the Federal Aviation Administration (FAA) and the International Council of Air Shows (ICAS) did not adequately address the need to better mitigate the collision risks associated with air boss-directed performances involving multiple, dissimilar aircraft. We determined that a lack of administrative controls and a documented risk assessment process for ensuring airshow aircraft separation directly contributed to the in-flight collision.

We found that, unlike the FAA regulatory requirements for pilots and air traffic controllers, air bosses are not subject to any recurrent evaluations, and there are no standardized communications terms for air boss-provided directives to ensure the clarity and brevity of radio communications.



This view, taken from the B-17G's right side, makes it seem that the P-63F has passed the Flying Fortress. However, this is once again foreshortening due to the use of a long telephoto lens. The P-63F is actually heading to the left rear fuselage behind the wing's trailing edge and in front of the left horizontal stabilizer. What the photo does show, however, is that the pilot of the P-63F does not have visual contact with the bomber.

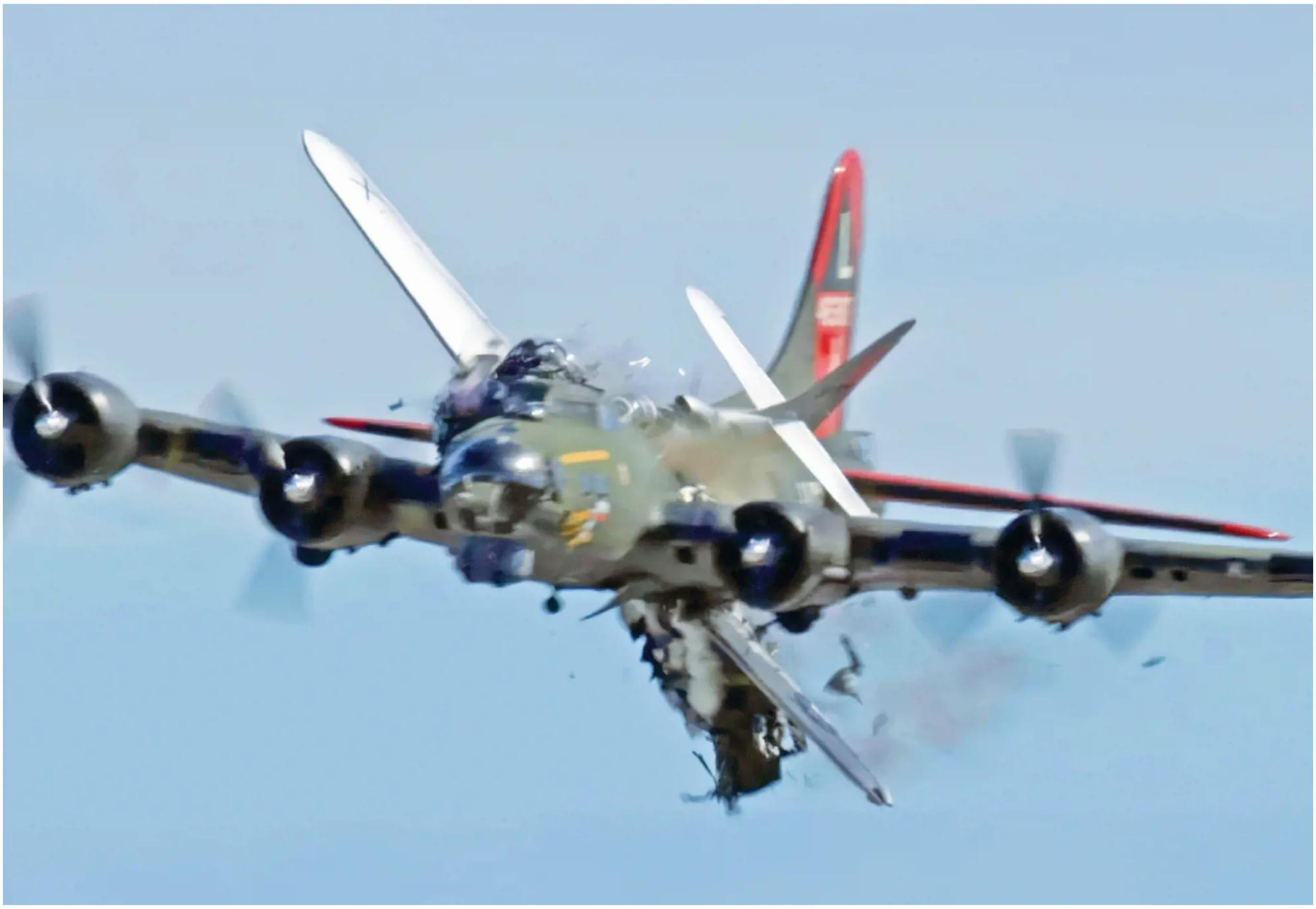


Photographed from the bomber's left side and a millisecond prior to impact, we can see how the Kingcobra is directly behind the trailing edge of the left wing and in front of the left horizontal stabilizer.

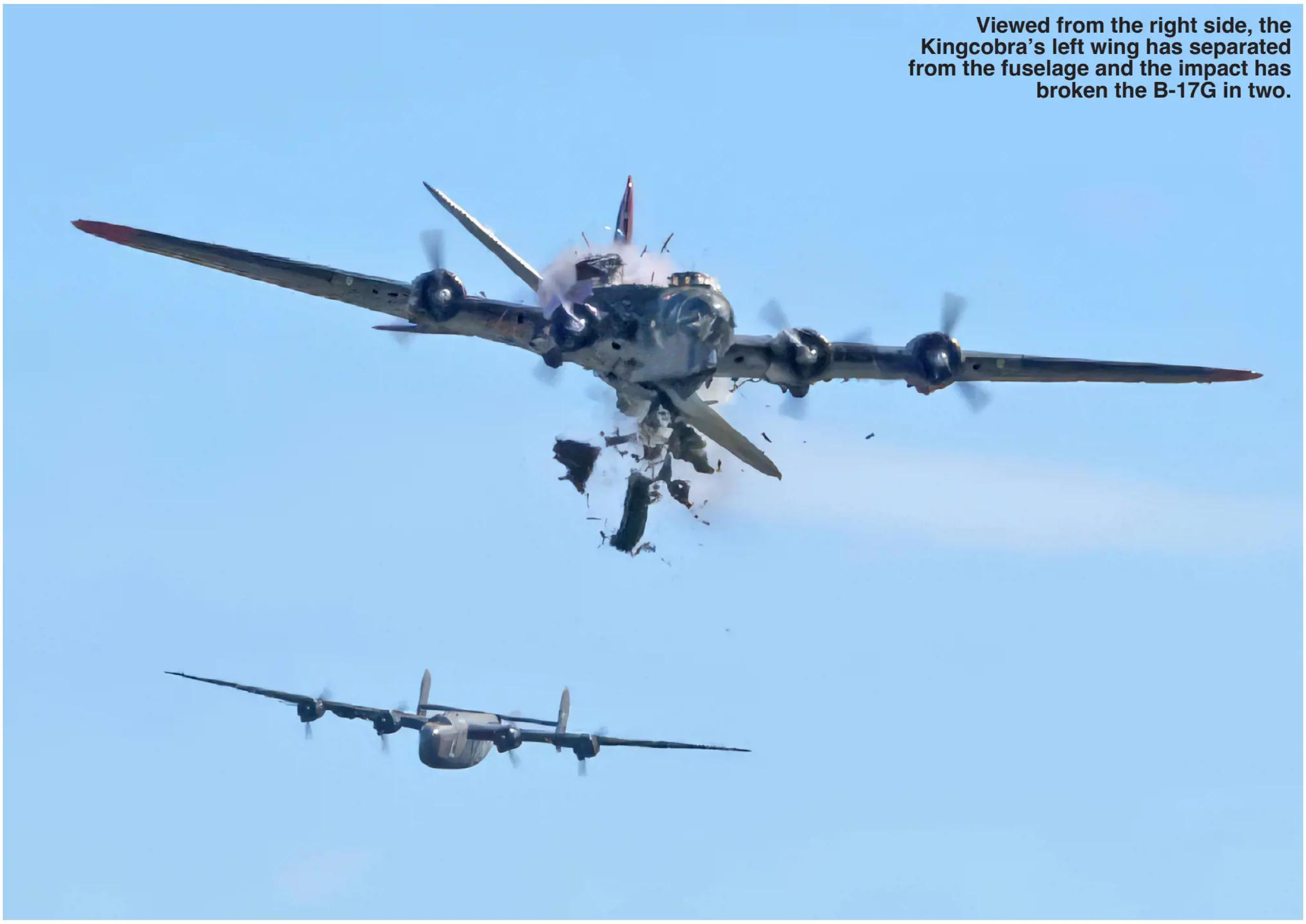
Further, the lack of guidance and required surveillance tasks for the FAA inspectors assigned to airshows related to the direct observation of an air boss's performance represents a missed opportunity for inspectors to detect and provide debriefing feedback to address performance-related safety issues.

We also found that the CAF's lack of a strong, clearly defined safety risk assessment plan resulted in airshow production decisions that were not systematically developed to determine acceptable levels of risk and were susceptible to influences unrelated to safety.

We determined that the probable cause of this accident was the air boss's and the airshow event organizer's lack of an adequate, prebriefed aircraft separation plan for the airshow performance, relying instead on the air boss's real-time deconfliction directives and the see-and-avoid strategy for collision avoidance, which allowed for the loss of separation between the B-17G and P-63F. Also causal was the diminished ability of the accident pilots to see and avoid the other aircraft due to flight path geometry, out-the-window view obscuration by aircraft structures, attention demands associated with the airshow performance, and the inherent limitations of human performance that can make it difficult to see another aircraft. Contributing to the accident were the lack of FAA guidance for air bosses and airshow event organizers on developing plans and performing risk assessments that ensure the separation of aircraft that are not part of an approved maneuvers package and the lack of FAA requirements and guidance for recurrent evaluations of air bosses and direct surveillance of their performance.



Movement of impact. The force with which the P-63F collided with the B-17G makes it appear that the Kingcobra is intact but the fighter is an instant away from completely coming apart.

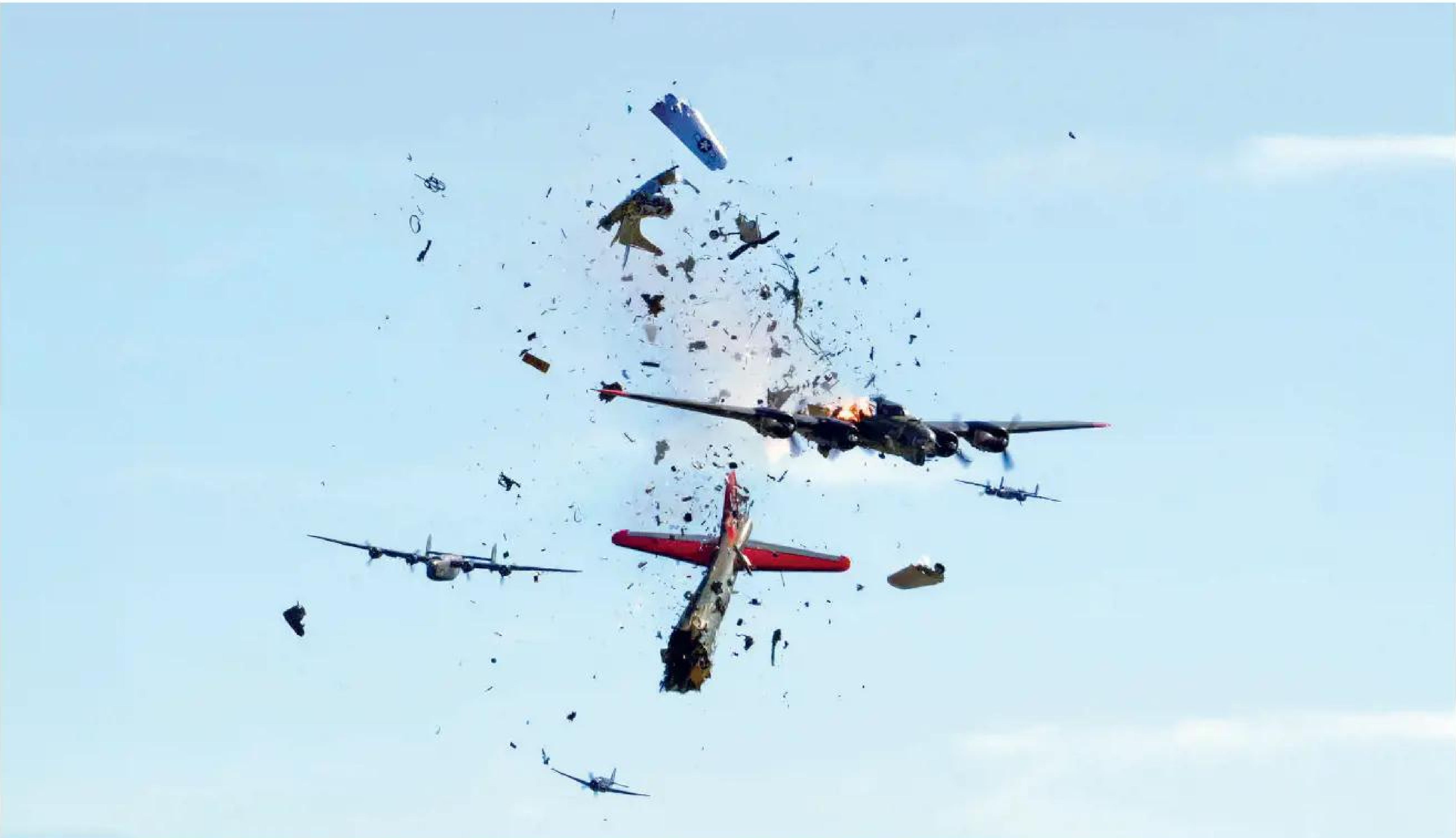


Viewed from the right side, the Kingcobra's left wing has separated from the fuselage and the impact has broken the B-17G in two.

WHAT WE RECOMMEND

As a result of this investigation, we made two new recommendations each to the FAA and to the ICAS. We recommended that they work together with other airshow industry stakeholders to develop standardized terms to help ensure the clarity and brevity of air boss-provided directives to performers. We also recommended that they both work with the Warbird community to establish standard operating procedures for airshow event organizers and air bosses that include applying effective administrative controls to ensure airshow aircraft separation, performing a safety risk assessment for each performance, and completing a daily debriefing with continuous feedback to the FAA and the ICAS to address any identified deficiencies.

We also made two new recommendations to the FAA to require recurrent air boss evaluations as part of the letter of authorization renewal process and to revise FAA Order 8900.1 to provide guidance and a job aid for FAA inspectors who evaluate an air boss's performance, including requirements for the FAA inspector-in-charge of an airshow to observe an air boss's performance visually and on the air boss radio frequency and provide appropriate feedback during the airshow debriefing. We made one new recommendation to the CAF to establish a safety risk assessment process for identifying and mitigating risks, tracking safety hazards, and routinely assessing trend data to include policies and procedures that specifically address the unique aspects of airshow operations. **AC**



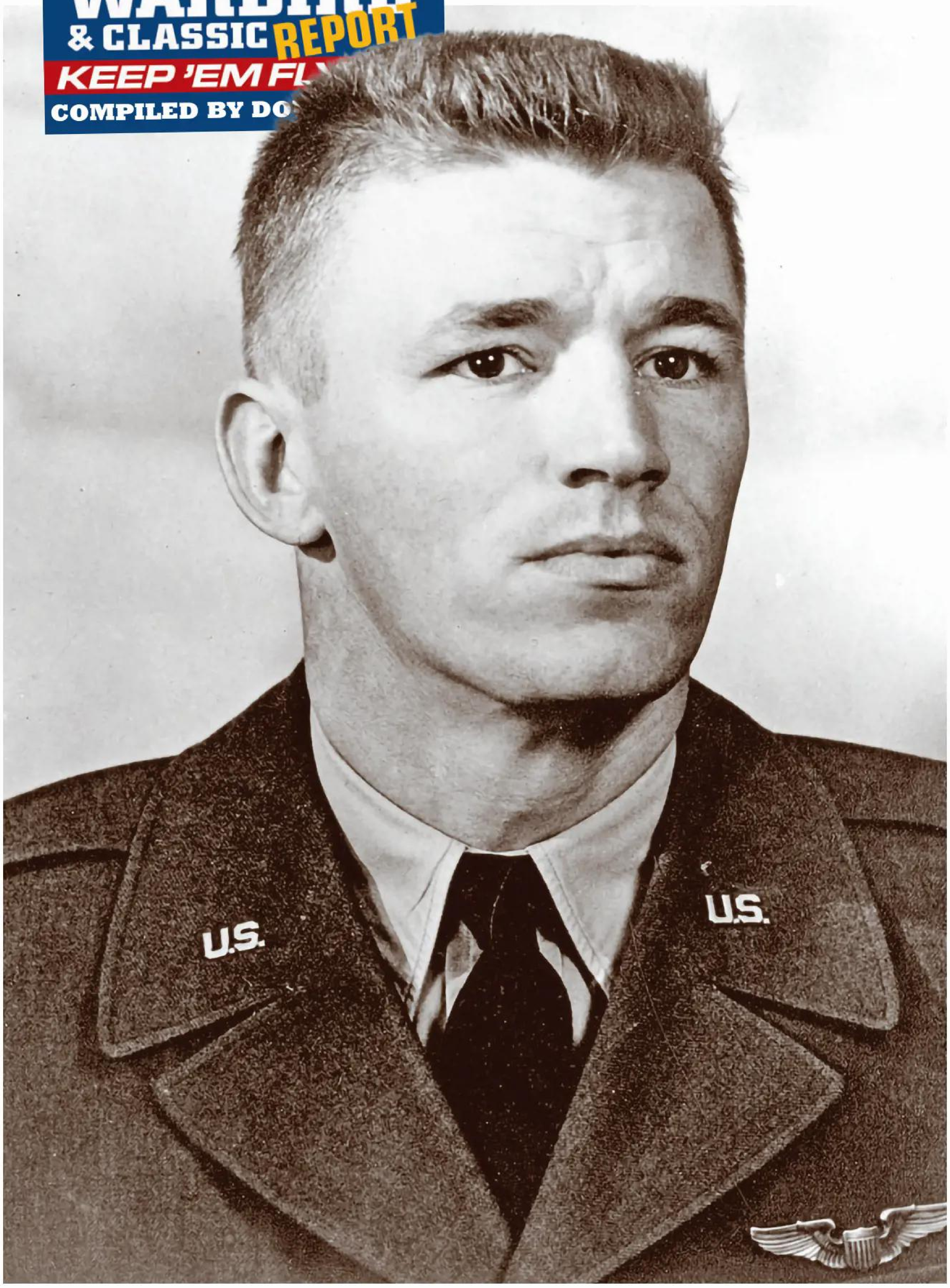
Both aircraft have come completely apart. The rear fuselage of the P-63F is at the top of the photo while the nose and propeller of the fighter are immediately to the right with a wing panel directly above them. The B-17G had broken completely apart and a wing panel of the P-63F can be seen just below the B-17G's left horizontal stabilizer. A fire has erupted in the B-17G's fuselage. The image shows the Liberator, Mitchell, and Helldiver to the rear but compacting makes them appear much closer than in reality.

(continued from page 16)

HONORING A HERO

THE WWII FLIGHT TRAINING MUSEUM CELEBRATES MAJOR CHARLES J. LORING

BY WEEZIE BARENDSE



Looking every inch the tough and determined fighter pilot that he was, Maj. Charles Loring was photographed during the Korean War. His father would later comment, "Charley was a stubborn man. He said he would never be a prisoner again. He was the kind of man who kept his word about everything."

On 22 November 2024, the World War II Flight Training Museum, the 63rd Preservation Society, the WWII Flight Training Base Committee, and the City of Douglas, Georgia, held a ribbon-cutting ceremony for the newly-named Cadet Park and the Charles J. Loring Memorial. This event commemorated the 72nd anniversary of Maj. Charles J. Loring Jr.'s heroic actions and included the dedication of a memorial in his honor. Many Loring family members, along with several distinguished guests, were present at the well-attended event.

A special 48-Star flag raising was conducted by Moody AFB as it was done 80 years ago every morning from 1941-1944. For the closing of the ceremony a special Taps performance was done by Bugler Don MacArthur (Retired USAF) followed by a T-33 fly-over by Chris Rounds.

Tim Oliver (WWII Flight Training Museum Docent) was the Master of Ceremonies for the program. Mayor Tony Paulk welcomed everyone to Douglas and proclaimed 22 November 2024 Cadet Day followed by remarks from Dr. Carl McDonald (WWII Flight Training Base Committee), Charles Davis (City Manager), Charles White (Office of US Congressman Austin Scott), Mark "Radio" Godwin (23rd Wing Historian, Moody AFB), Cuppy Johndro (Curator of Loring Museum in Limestone, Maine), Joseph Matta (Grandson of Charles J. Loring, Jr.), and Don Brooks (Founding Member of the 63rd Preservation Society).

At this special ceremony, honor was paid to the thousands of cadets who trained at the 63rd Army Air Force Contract Pilot School (Primary). Cadets such as Rosie Rosenthal, Charles Loring, and countless others first trained in Douglas and would serve our country to protect our freedoms and save hundreds of thousands from the horrors of WWII.

MAJOR CHARLES J. LORING, JR.

Charles J. "Charley" Loring was a member of the Class of 1943-B. After passing through

Primary Training in Douglas, he completed his Basic Flight Training at Greenville, Mississippi, and Advanced at Napier Field, Alabama. He was assigned to 36th Fighter Group's 22nd Fighter Squadron, 9th Air Force, where he flew the Republic P-47 Thunderbolt.

While over France during the Spring of 1944, Loring was wounded. He was released from the hospital and back in the air attacking targets in Europe in preparation for the D-Day landings. During June 1944, while supporting the D-Day operations, Loring earned the Distinguished Service Cross for "historic and outstanding achievement." The citation reads in part:

"While on a dive-bombing mission in the area of Contances, France, Lt. Loring displayed exceptional aerial skill and combat proficiency in the destruction of enemy armored vehicles. In the face of an intense concentration of anti-aircraft and small arms fire he made repeated passes at hostile convoys, destroying in all ten vehicles and causing heavy casualties."

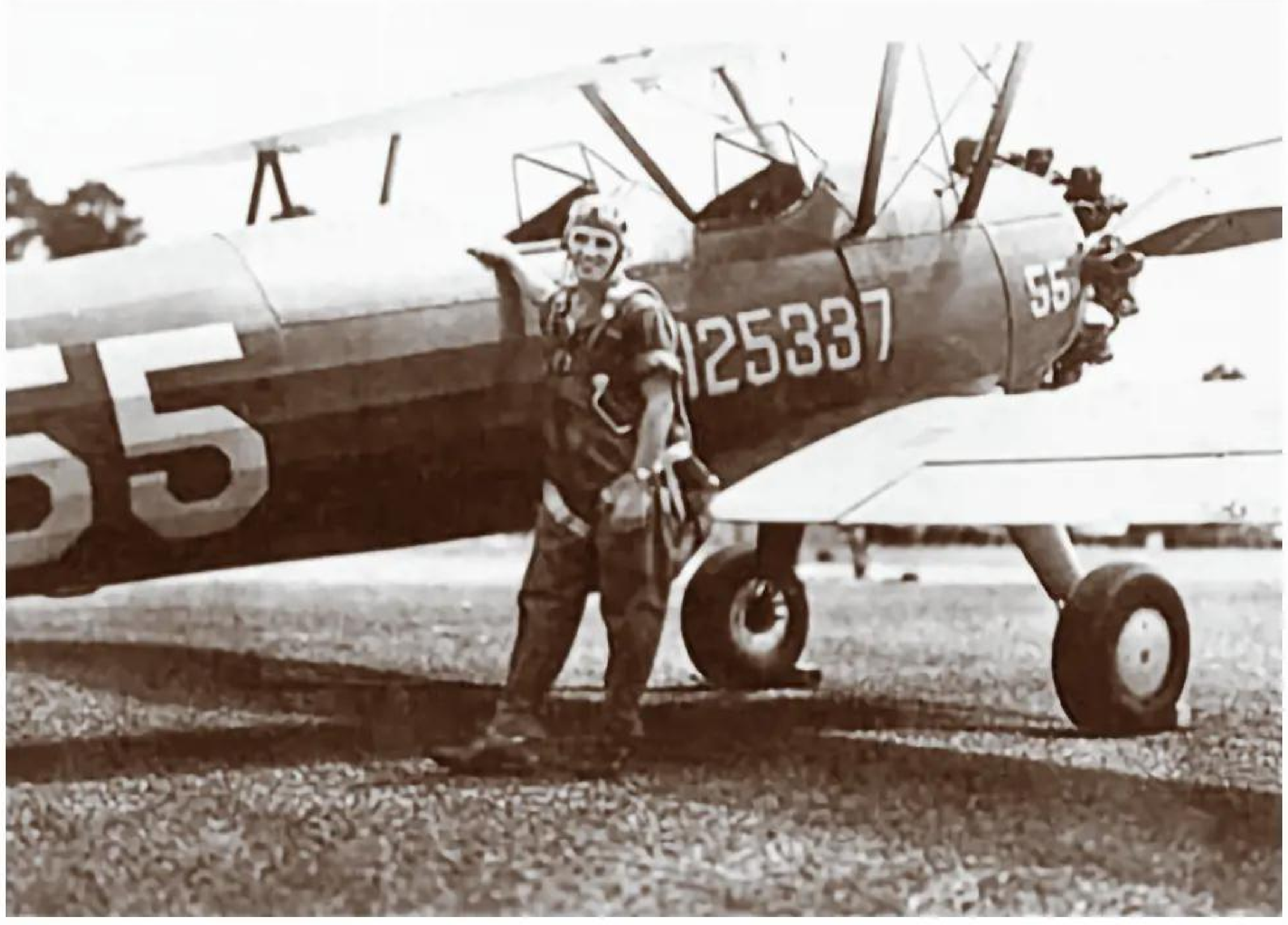
On Christmas Eve 1944, during the Battle of the Bulge, 1st Lt. Loring undertook his 56th and last mission of WWII flying P-47D USAAF 44-19864. He took off from Le Culot, Belgium, to make a dive-bombing attack on the marshalling yards of the Prum-Hillesheim-Nettersheim area of Germany. An eyewitness reported:

Ribbon Cutting and Dedication
of Cadet Park and
Major Charles J. Loring Jr.
Memorial
ember 22, 2024 | 10:00 a.m.

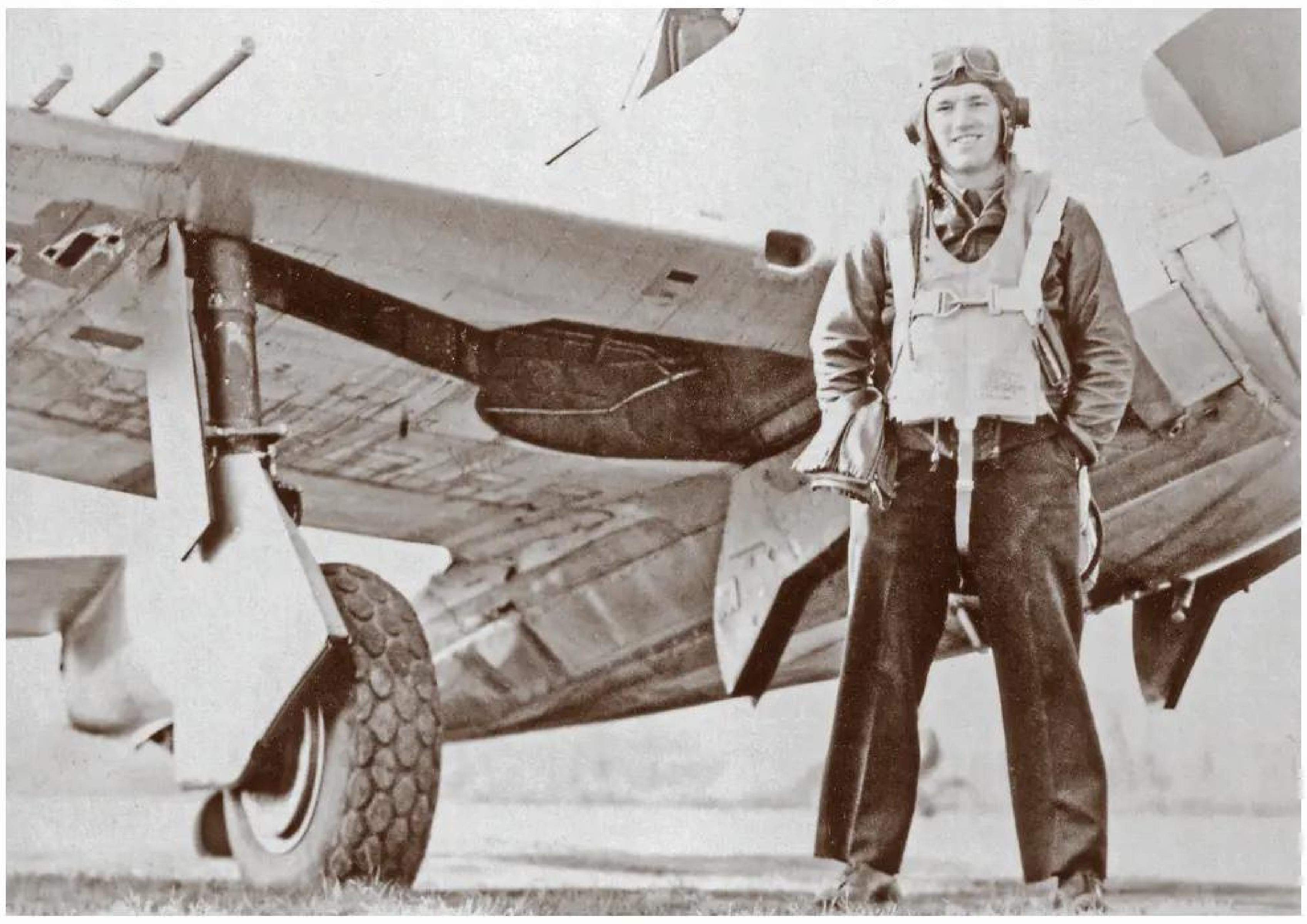
Warbird owner and sparkplug behind the museum, Don Brooks gives an opening statement to spectators.

"After a dive bombing run on marshalling yards, Lt. Loring was hit by anti-aircraft fire as he made a strafing attack. He called over the radio that his plane had been hit, saying that he had a hole in the wing, that his gun bays had been blown out, and that the plane was smoking. He was unable to locate us, and requested that we follow him, saying he was heading west. We were unable to do so. This was in the vicinity Hotton, Belgium."

Injured, he crash-landed his aircraft and was captured. He was initially admitted to the Garrison

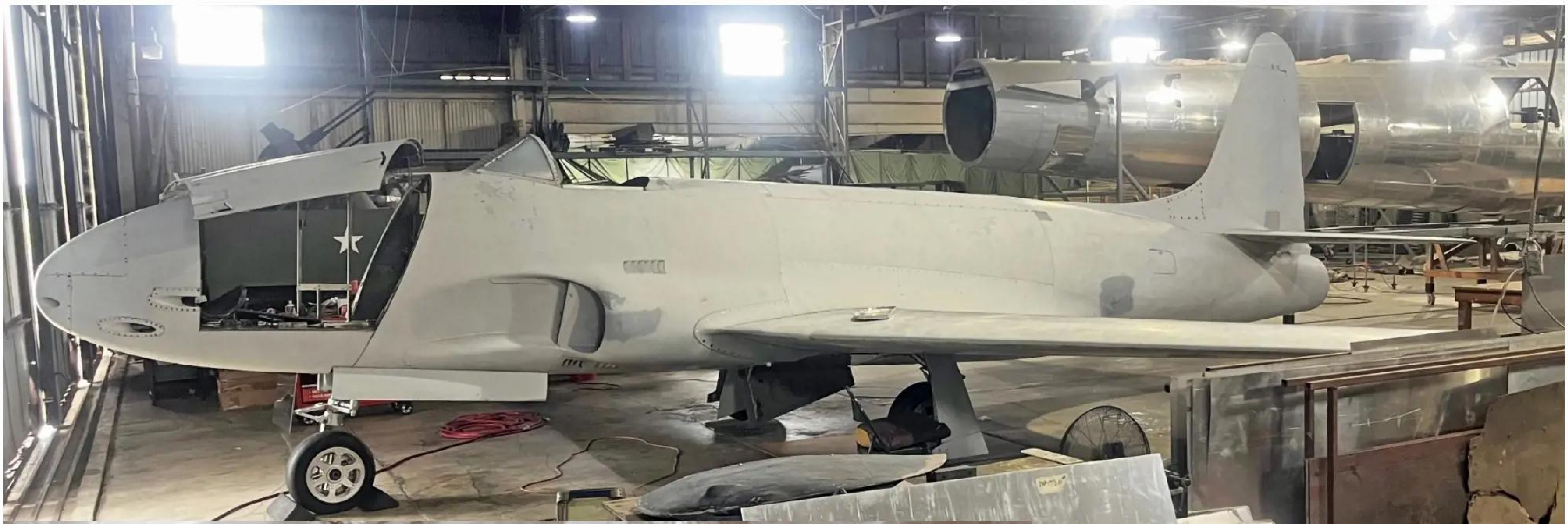


Loring after soloing in this Stearman at Douglas, Georgia.

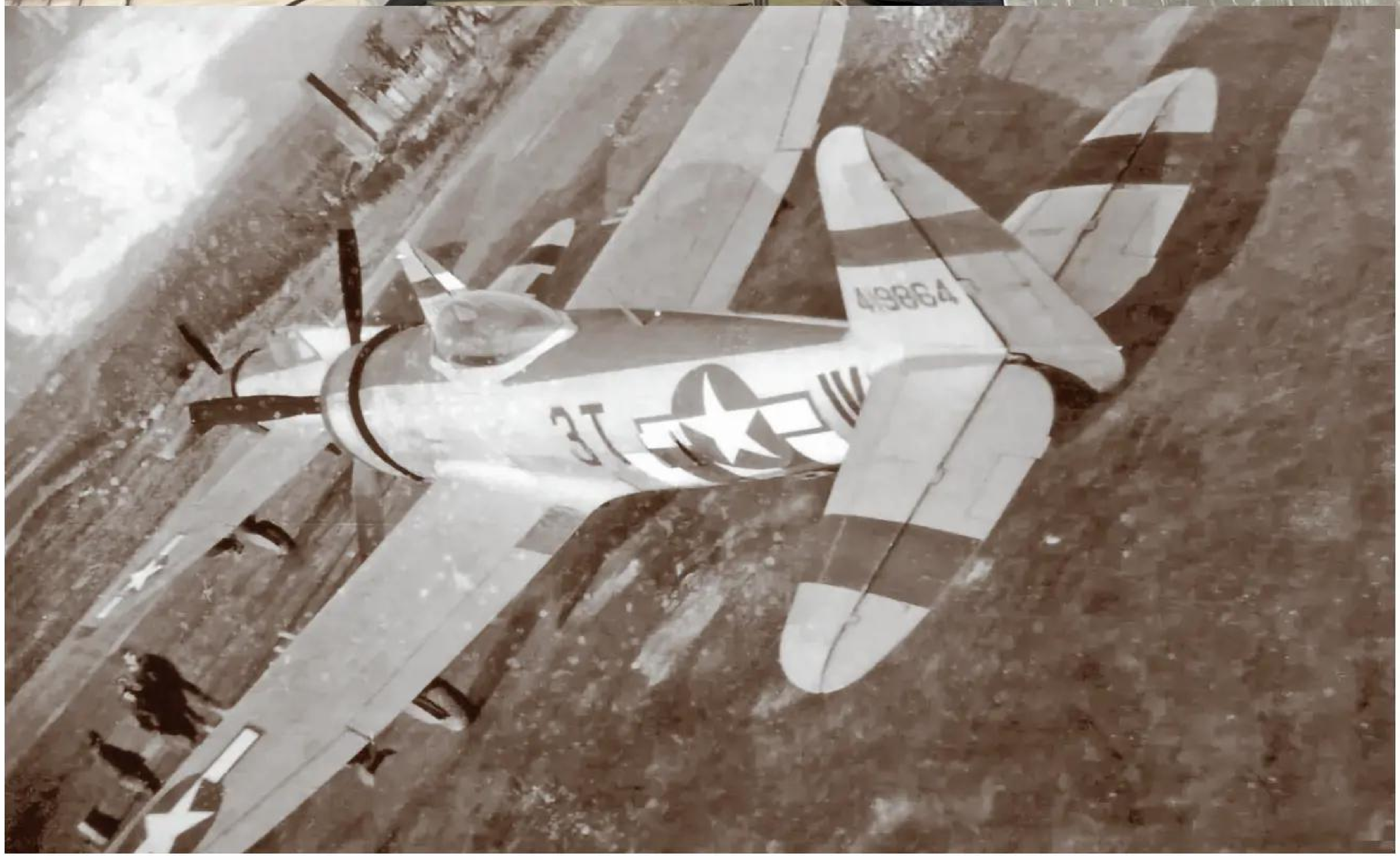


Loring with his Thunderbolt in England.

Chris Rounds blasts overhead in his T-33 Shooting Star.



Refurbishing the T-33/F-80 airframe at Douglas, Georgia, with Don Brooks B-17G in the background.



P-47D-28-RE USAAF 44-19864/3T*W. Loring was flying this Thunderbolt when he was shot down on 24 December 1944.

The ribbon cutting ceremony at Douglas.

FT-830
MORIAL
r 22, 1952

Hospital of Hemer near Iserlohn and then transferred to Oberursel (an interrogation center) and then *Dulag Luft*, Frankfurt as a prisoner of war until war's end.

After the war, Loring remained in the service. The summer of 1952 found him in Korea serving as operations officer of the 80th Fighter-Bomber Squadron. He was flying the F-80 Shooting Stars and the mission for his unit was primarily close air support of UN Command ground troops. For his extraordinary heroism on his final flight, he was awarded the Medal of Honor (this was kept secret by President Truman in case there was a chance that Loring was alive and had been captured by the enemy), our nation's highest military honor. At the memorial dedication, his grandson Joseph Matta read the citation:

"Major Charles J. Loring Jr. distinguished himself by conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty. While leading a flight of four F-80 aircraft on a close support mission, Maj. Loring was briefed by a controller to dive-bomb enemy gun positions which were harassing friendly ground troops. After verifying the location of the target, Maj. Loring rolled into his dive-bomb run. Throughout the run, extremely accurate ground fire was directed on his aircraft.

"Disregarding the accuracy and intensity of the ground fire, Maj. Loring aggressively continued to press the attack until his aircraft was hit. At approximately 4000 feet, he deliberately altered his course and aimed his diving aircraft at active gun emplacements concentrated on a ridge northwest of the briefed target, turned his aircraft 45 degrees to the left, pulled up in a deliberate, controlled maneuver, and elected to sacrifice his life by diving his aircraft directly into the midst of the enemy emplacements.

"His selfless and heroic action completely destroyed the enemy gun emplacement and eliminated a dangerous threat to United Nations ground forces. Major Loring's noble spirit, superlative courage, and conspicuous self-

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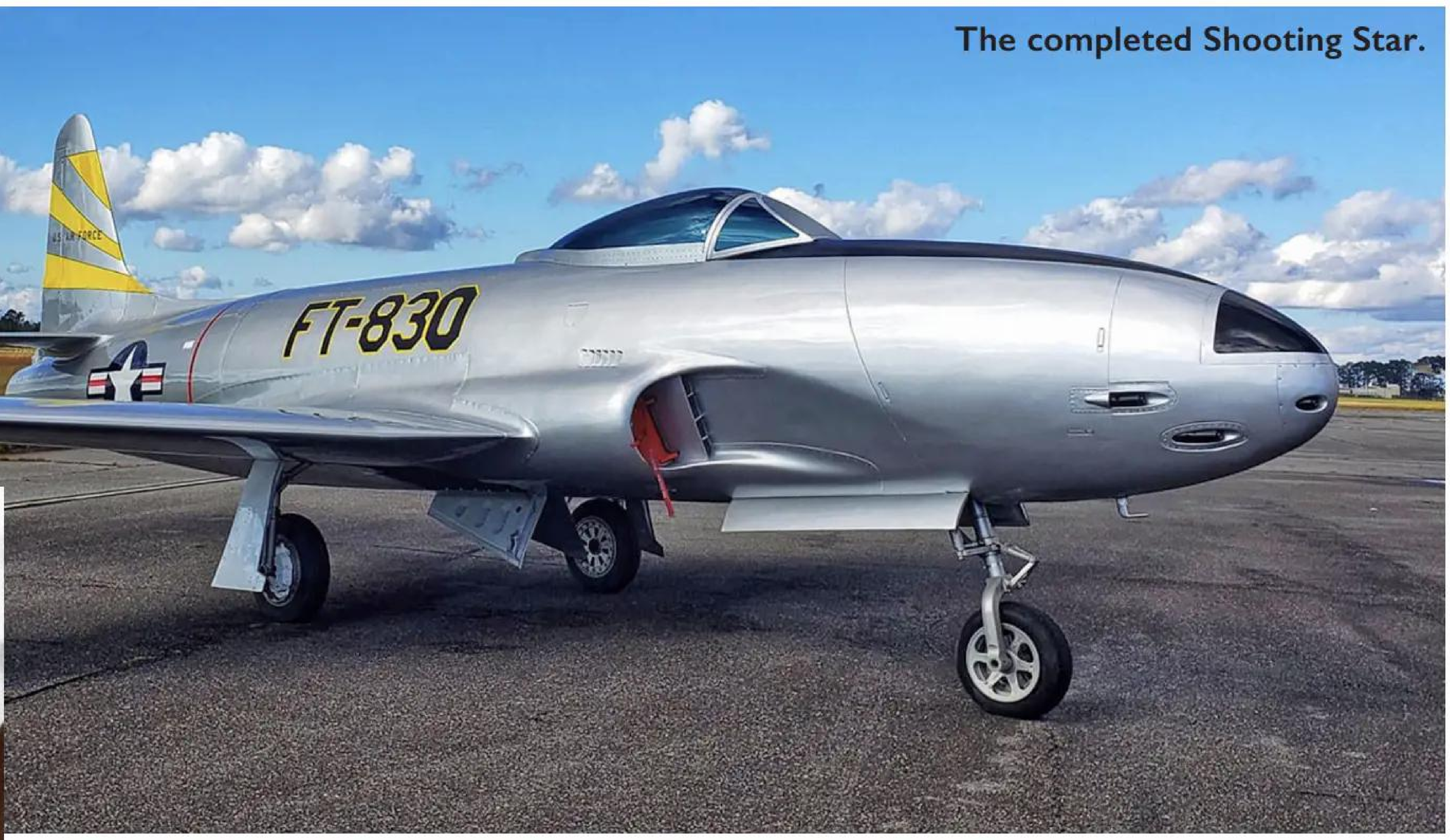

The completed Shooting Star.

Major Loring catching a ride in a jeep out to his Shooting Star during the Korean War.

sacrifice in inflicting maximum damage on the enemy exemplified valor of the highest degree and his actions were in keeping with the finest traditions of the US Air Force."

Major Loring left behind a widow and two young daughters who received his Medal of Honor, for which he paid such a high price, in April 1954.

SHOOTING STAR

The Lockheed P-80 Shooting Star was the first jet fighter used operationally by the United States Army Air Forces during WWII. Some saw limited service in Italy just before the end of WWII.

The aircraft on display at the Cadet Park has its own history. It was originally accepted by the USAF in the 1950s as a two-seat T-33 trainer. It was modified into a F-80 configuration by Aero Nostalgia of Stockton, California, in the 1980s and painted to resemble an F-80A. The aircraft was acquired in January 1990 by the USAF Museum for static display. The Air Force released this aircraft and, after several owners, it was acquired by the Douglas 63rd Preservation Society for use in this memorial. It is painted as Lockheed F-80C USAF 49-1830/FT-830 as flown by Maj. Loring. Volunteers and USAF maintainers from Moody AFB volunteered many hours of their time and skills to the restoration of the F-80 Shooting Star, the centerpiece of the memorial. **AC**

CHARLES LORING MEMORIAL
Medal of Honor - Korea - November 22, 1952

The Loring family with the Shooting Star.

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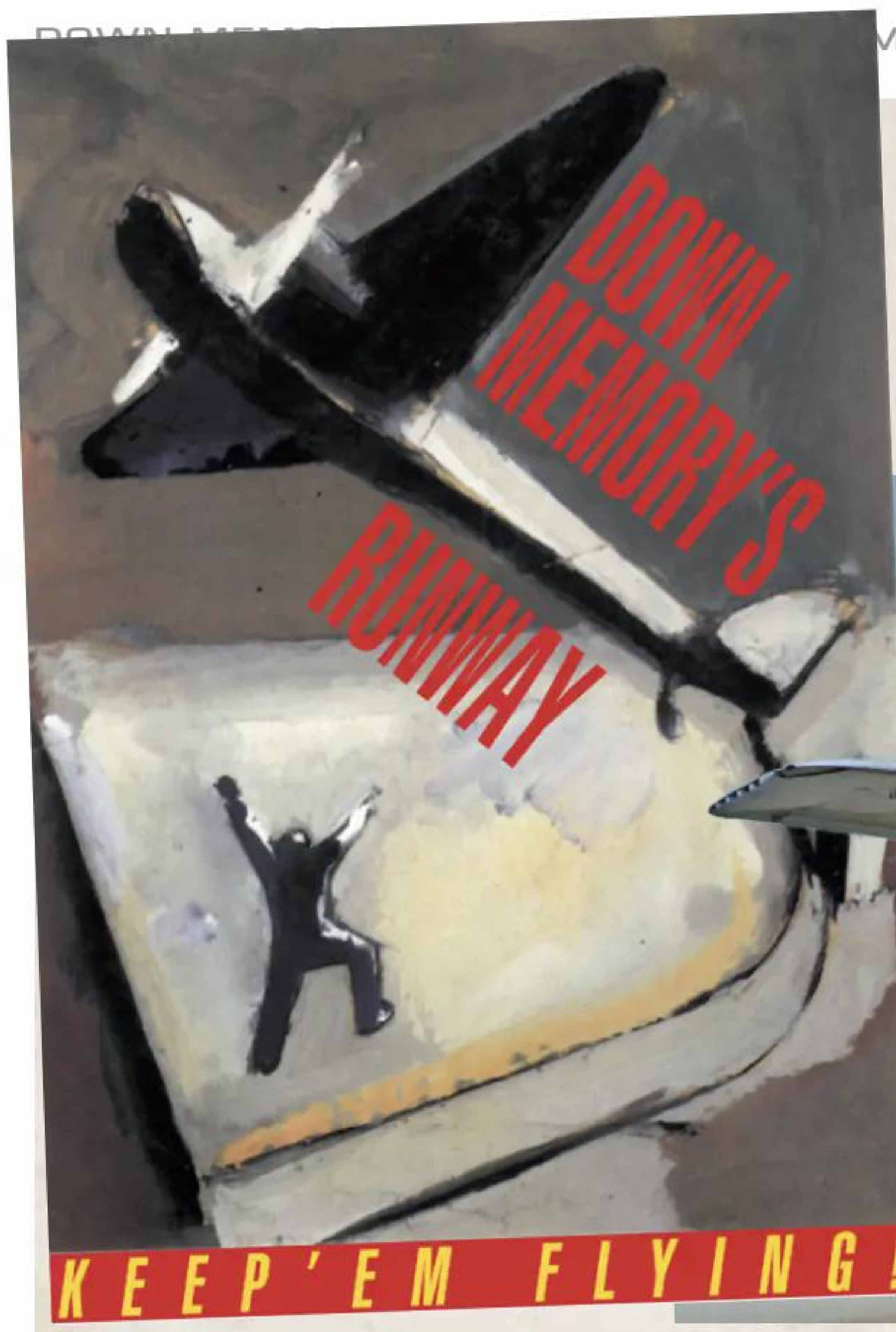
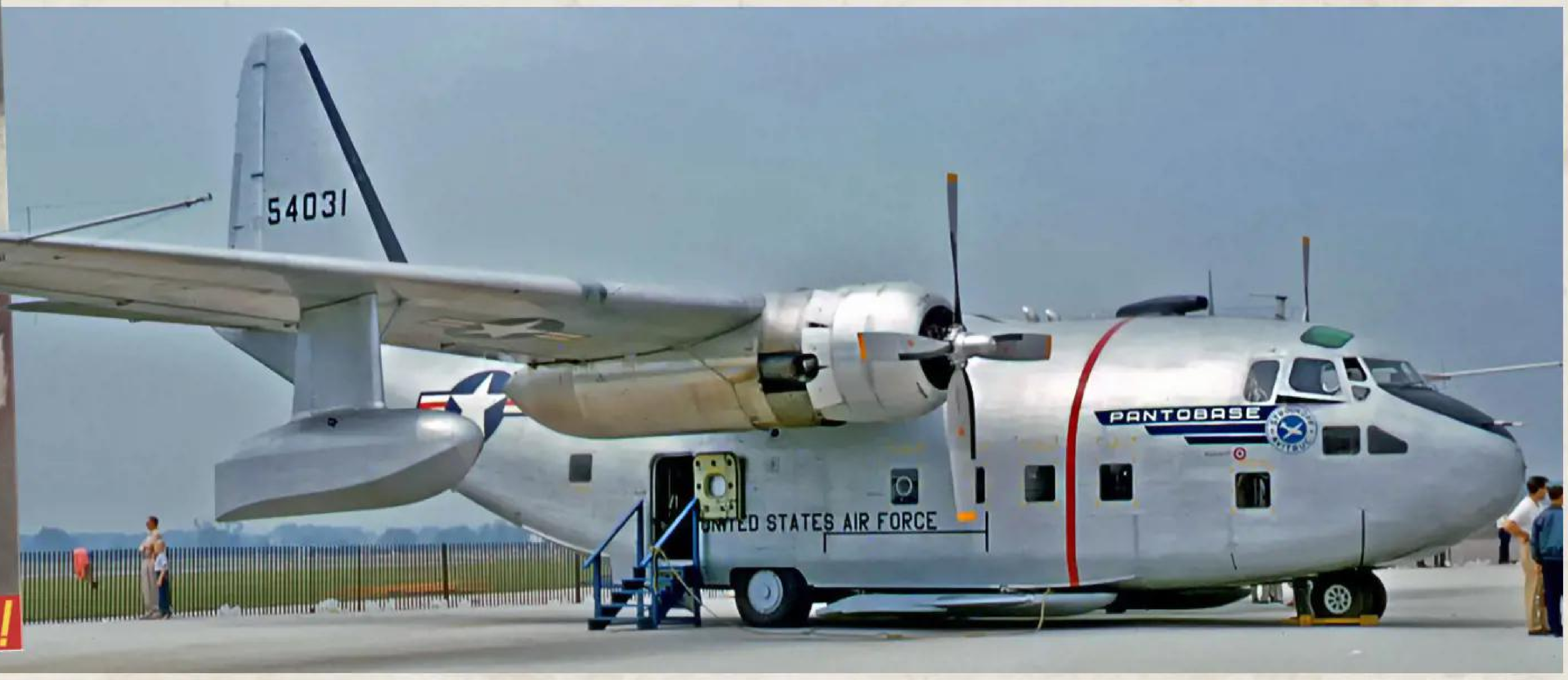
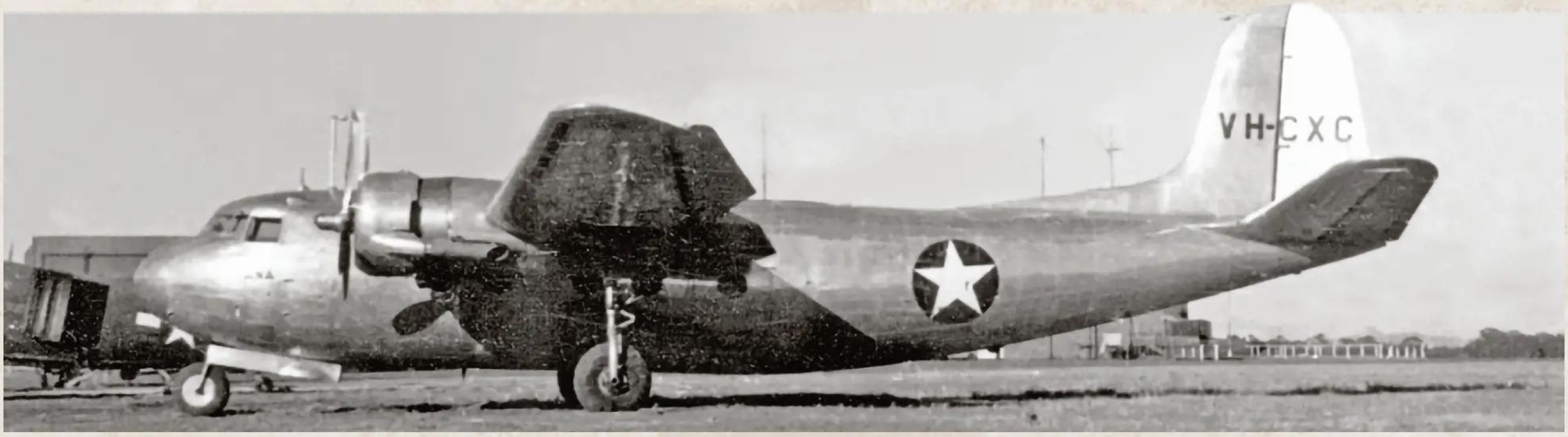


SELECTION OF INTERESTING AND UNUSUAL AMERICAN AND BRITHS AIRCRAFT

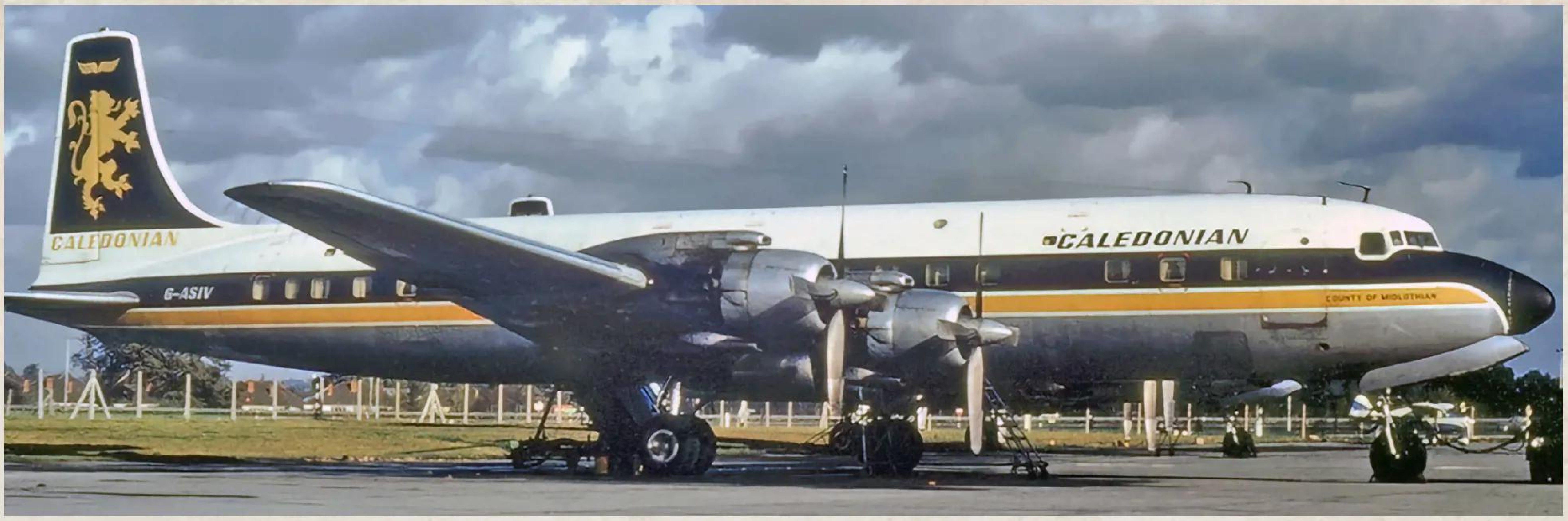
BY NORM TAYLOR



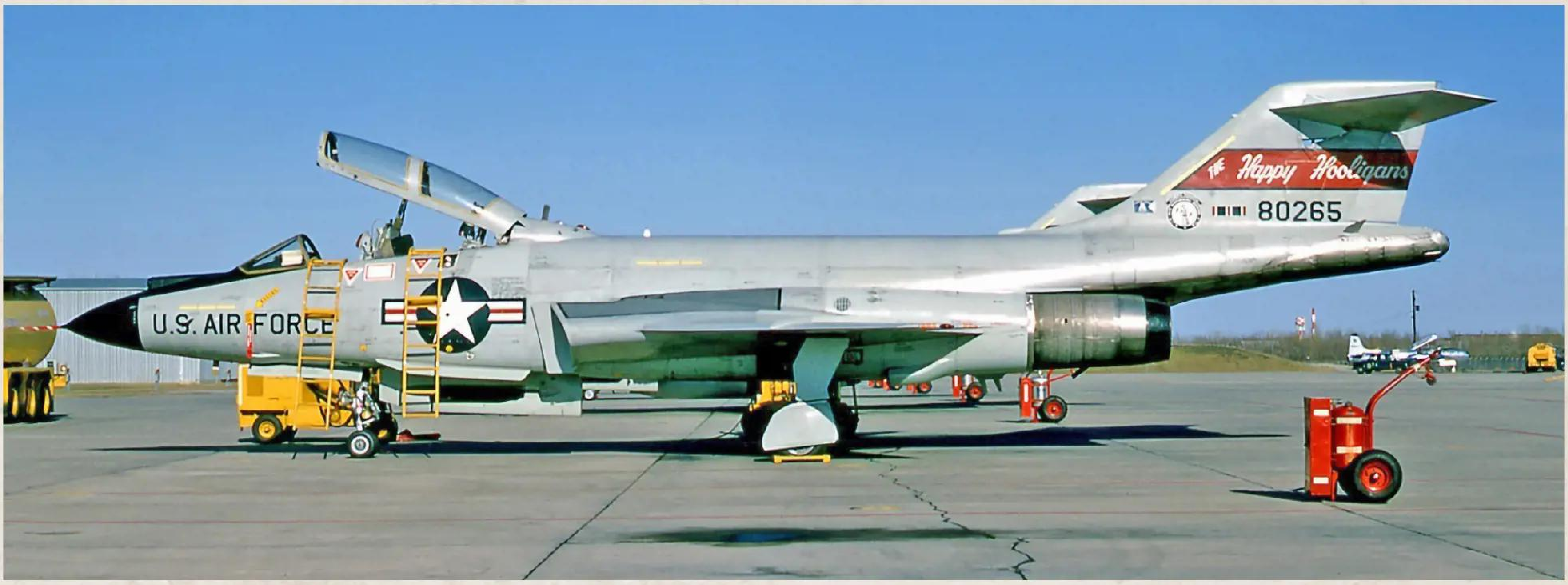
Few enthusiasts realize the Fairchild C-123 was originally the Chase Aircraft C-123 but the company was not able to maintain production for the USAF and the type was taken over by Fairchild who added various improvements. This strange beast apparently started life as one of the uncompleted Chase C-123Bs (serials 52-1628 to 52-1631) and was obtained by Stroukoff Aircraft and rebuilt with that company's "Pantobase" landing gear system that enabled it to land on snow, water, or land as the YC-123E. Testing was successful and the plane was further developed as the YC-134. The craft was photographed at the September 1955 National Air Show in Philadelphia.



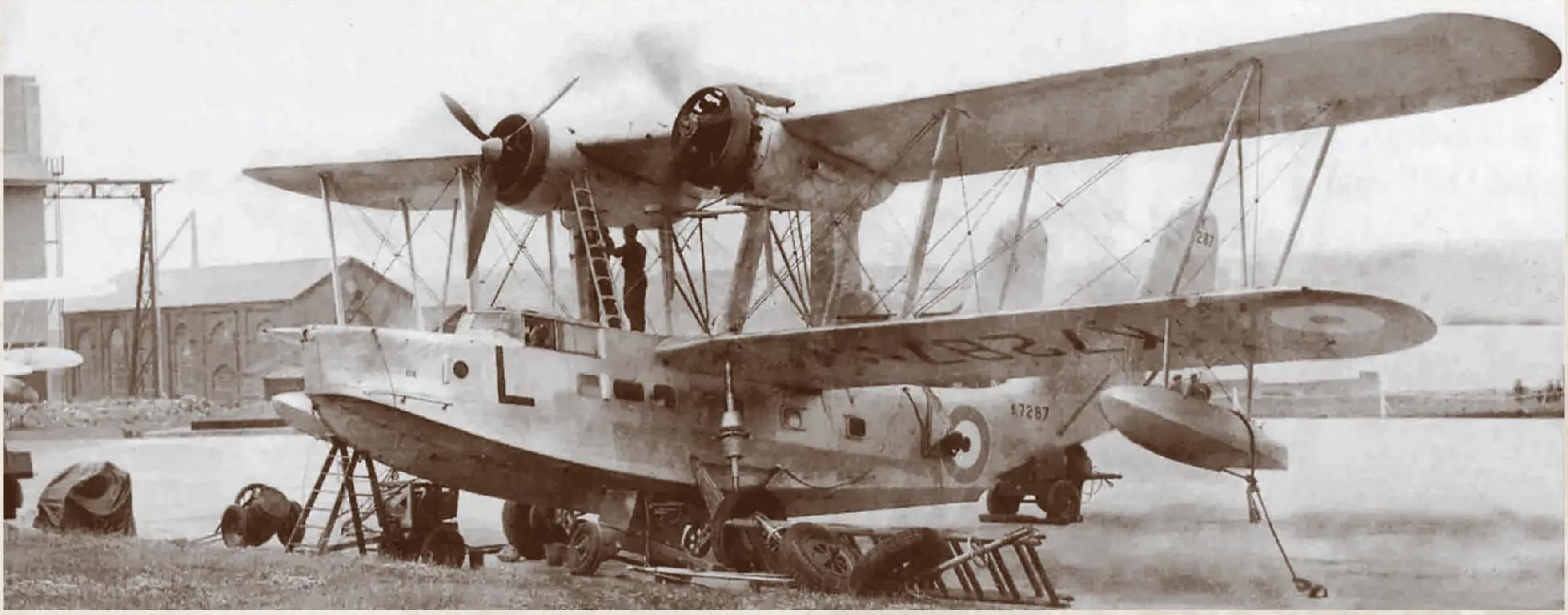
A rare failure for Douglas was the strange DC-5, which was an attempt to create a "modern" medium haul airliner. They type just did not enjoy much success and this example was built for Holland's KNILM to operate in Dutch New Guinea. Registered PK-ADD, the DC-5 flew to Australia to escape the Japanese advance. It was taken over by the USAAF as a C-110 but was operated by Australian National Airways (ANA) with the call sign VHCXC and the temporary USAAF serial of 41-426. With the end of the war, it was purchased by ANA and flown as VH-ARD. Even though it was well out of service, the aircraft received the official USAAF serial of 44-83232. Parts were impossible to find and ANA sold the plane. It went through a couple of owners and then was smuggled to Israel in 1948 where it apparently was going to be used as a bomber. History is a bit vague but this was certainly the last surviving DC-5 and it went to a children's playground and was eventually scrapped.



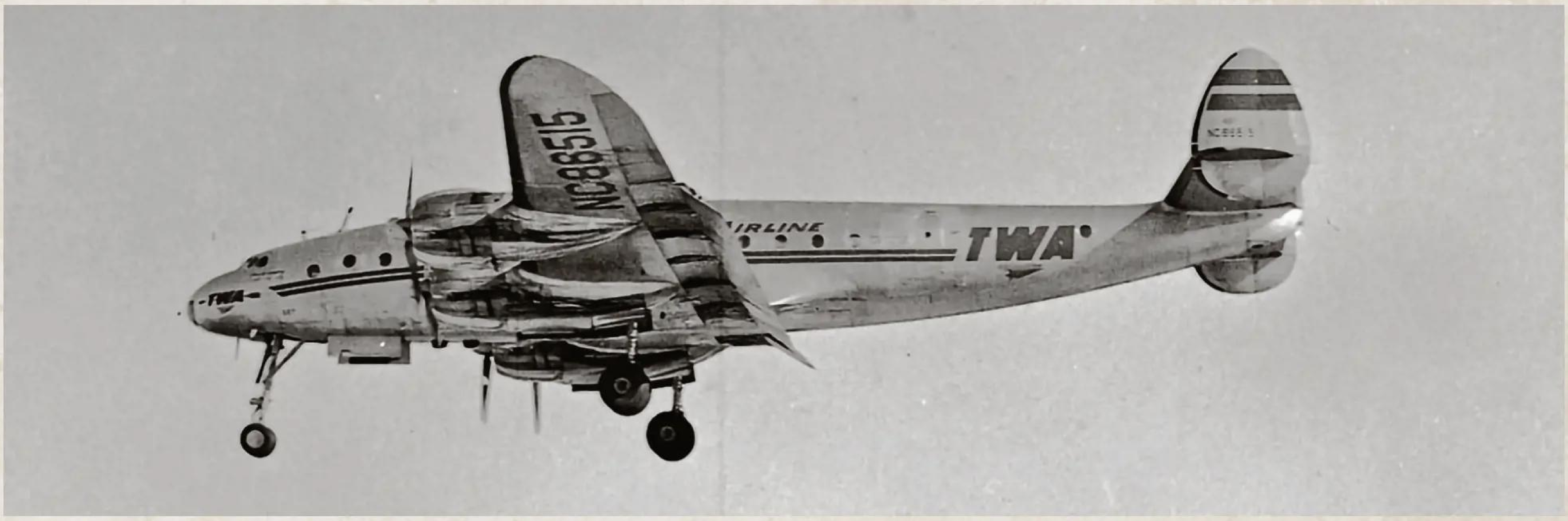
After being phased out of service because of the introduction of jet airliners, second and third level operators found the Douglas DC-7 to be a reliable and profitable aircraft. One of those companies was Caledonian Airways and their planes were finished in an extremely attractive color scheme. DC-7C G-ASIV *County of Midlothian* was photographed during October 1965 at Gatwick Airport in England. Only 122 DC-7Cs were built before the new jets spelled the end of the great Propliners.



One of the last Air National Guard units to fly the mighty McDonnell F-101 Voodoo was North Dakota ANG's 178th Fighter Interceptor Squadron, 119th Fighter Interceptor Group, based out of Hector Field in Fargo. F-101B-105-MC USAF 58-0265 was photographed on the line during April 1975. After ND ANG service, this Voodoo went on to fly with the 111st FIS, 147th FIG, of the Texas ANG at Ellington AFB. It was then transferred to the USAF Museum and became part of that institution's "loan" program. The Voodoo is now on display at the Auto und Technik Museum-Speyer at Speyer Airport in Germany.



Looking like a throwback from the Great War, Supermarine Stranraer K7287 has its left Bristol Pegasus radial tested while firmly tied-down on its beaching gear. Designed as a maritime recon/patrol bomber, the Stranraer was the RAF's last and fastest biplane flying boat. Entering service in 1937, most of the 23 built were operational when Germany invaded Poland. Forty examples were built in Canada under license by Canadian Vickers and many would go on to have an interesting civilian life. K7287, the first production aircraft, was delivered to the RAF during April 1937 and struck off charge on 25 June 1941



There was a time when you could drive right out on a perimeter road where fill was being used to expand San Francisco International Airport and take some great airplane photos without anyone bothering you and that is exactly what William T. Larkins did with this shot of a TWA Lockheed 049 Constellation. Registered N86515, this angle shows the Connie's massive deployed Fowler flaps to full advantage. **AC**

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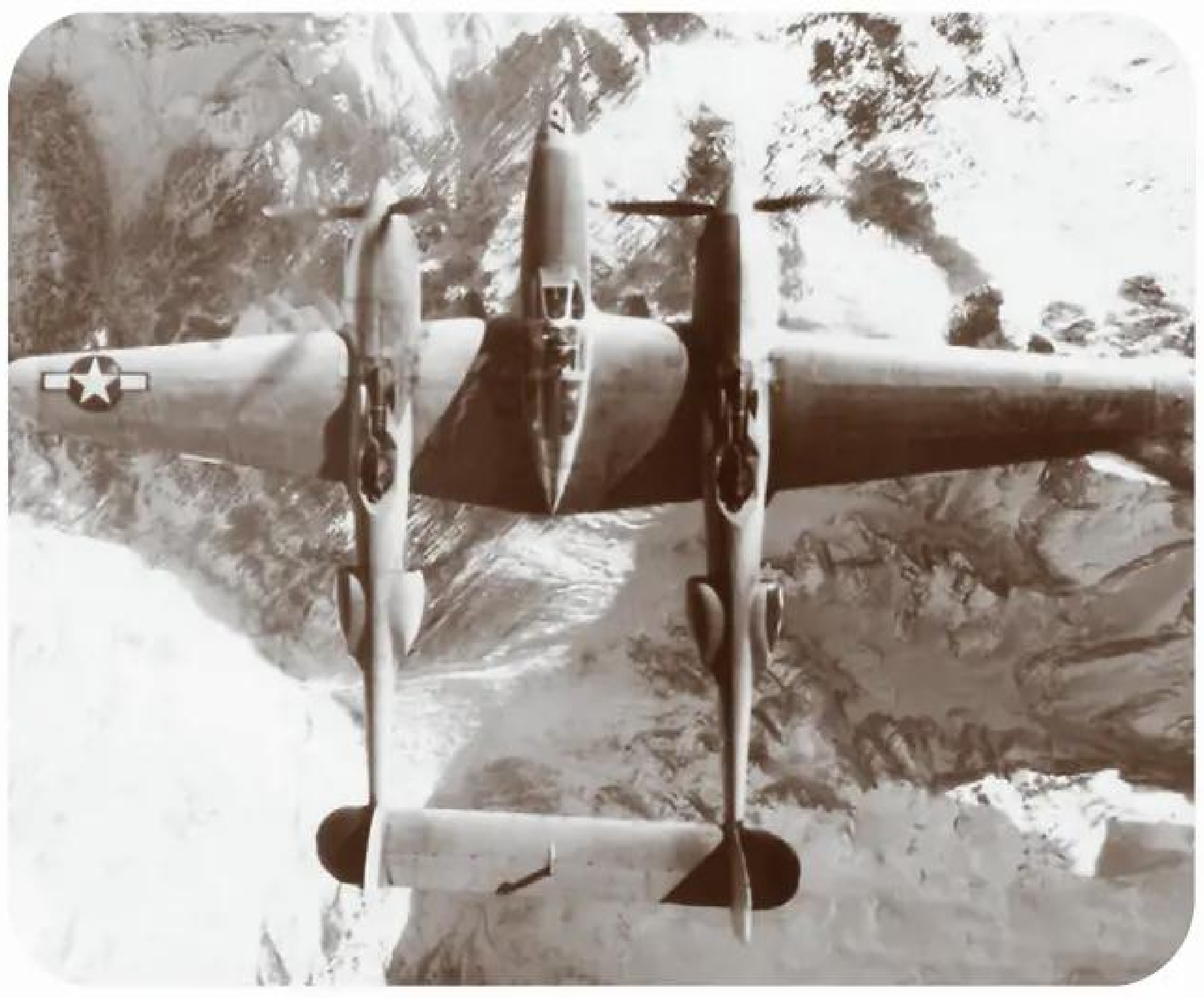

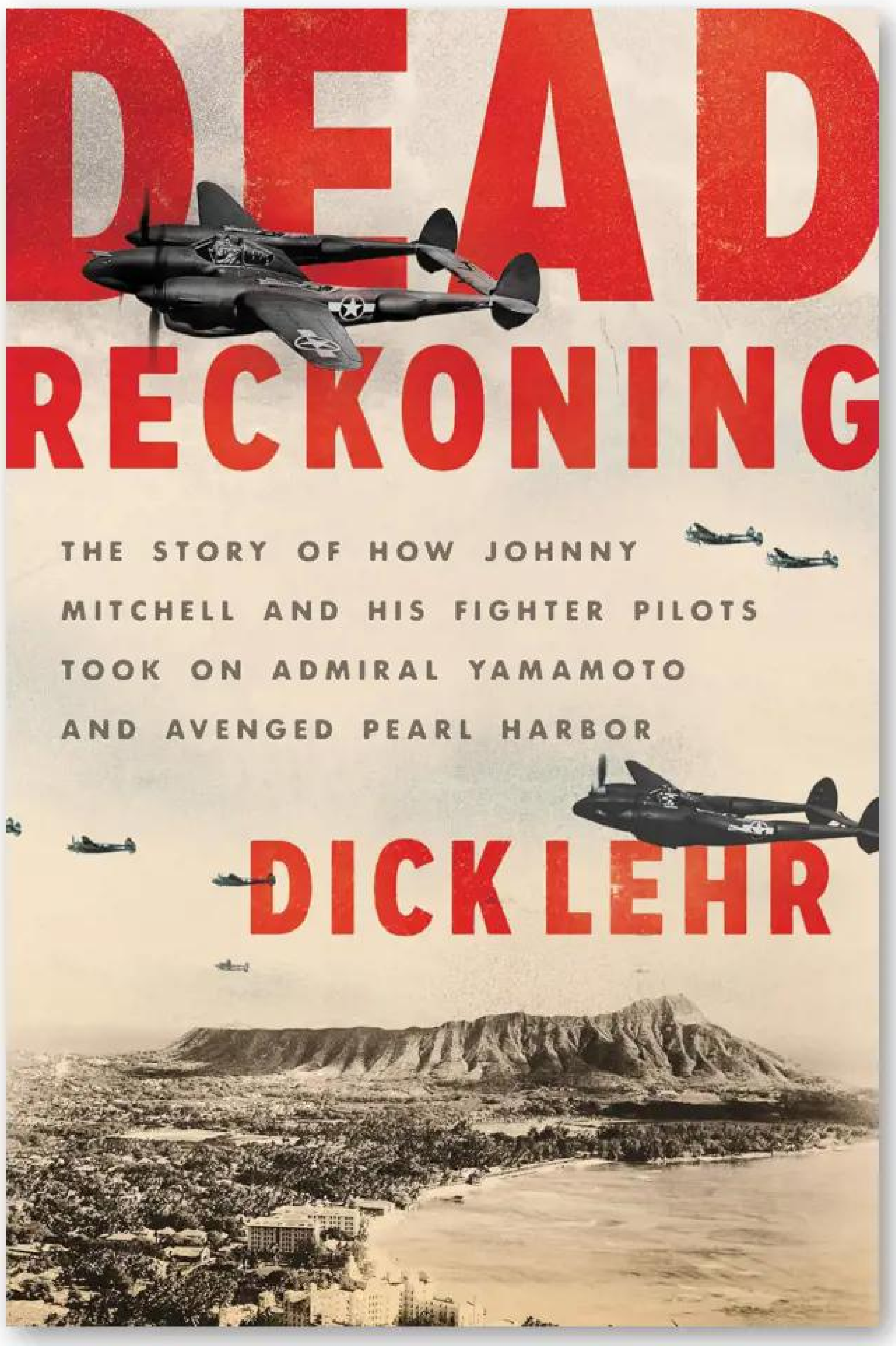
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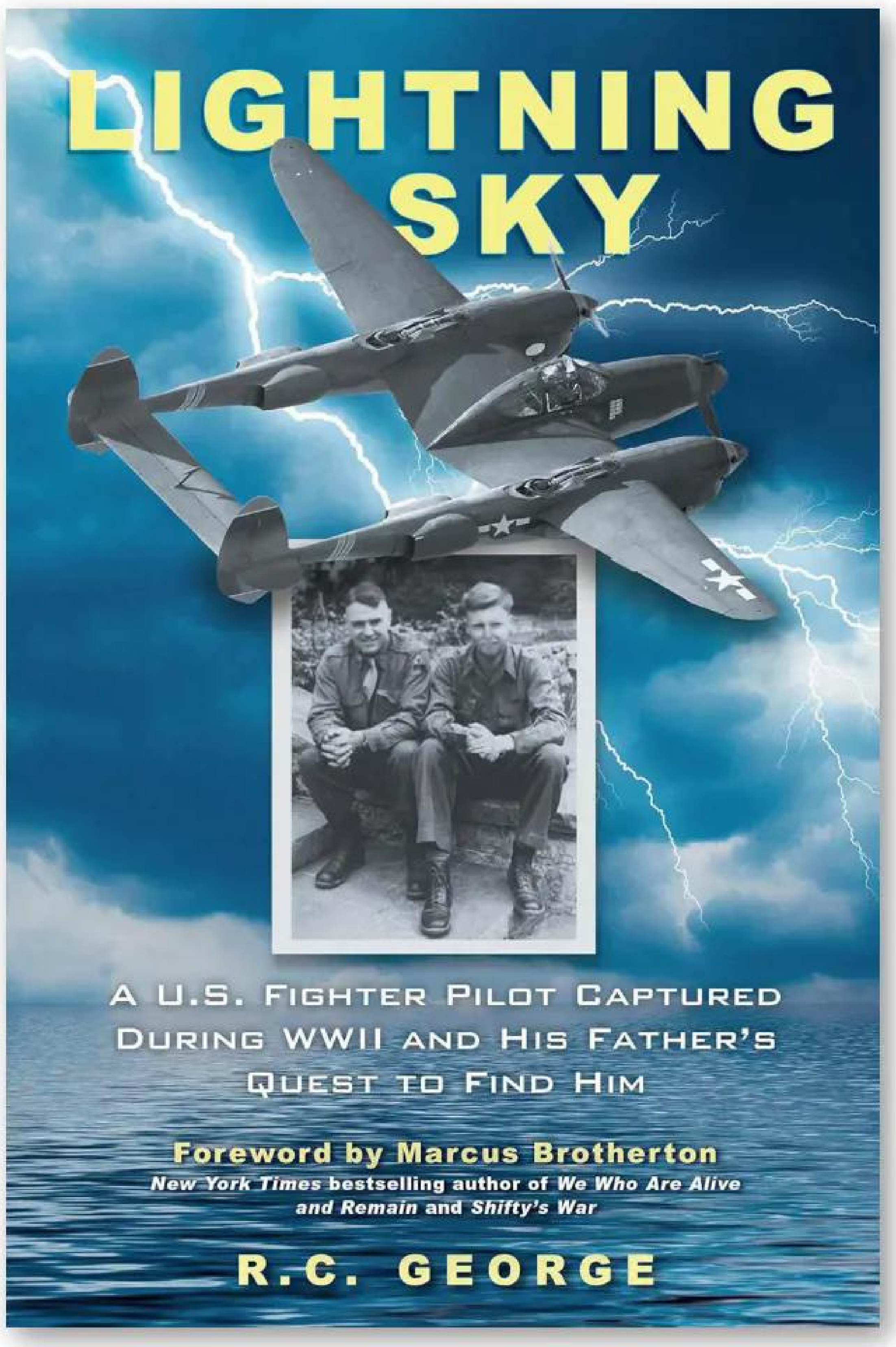
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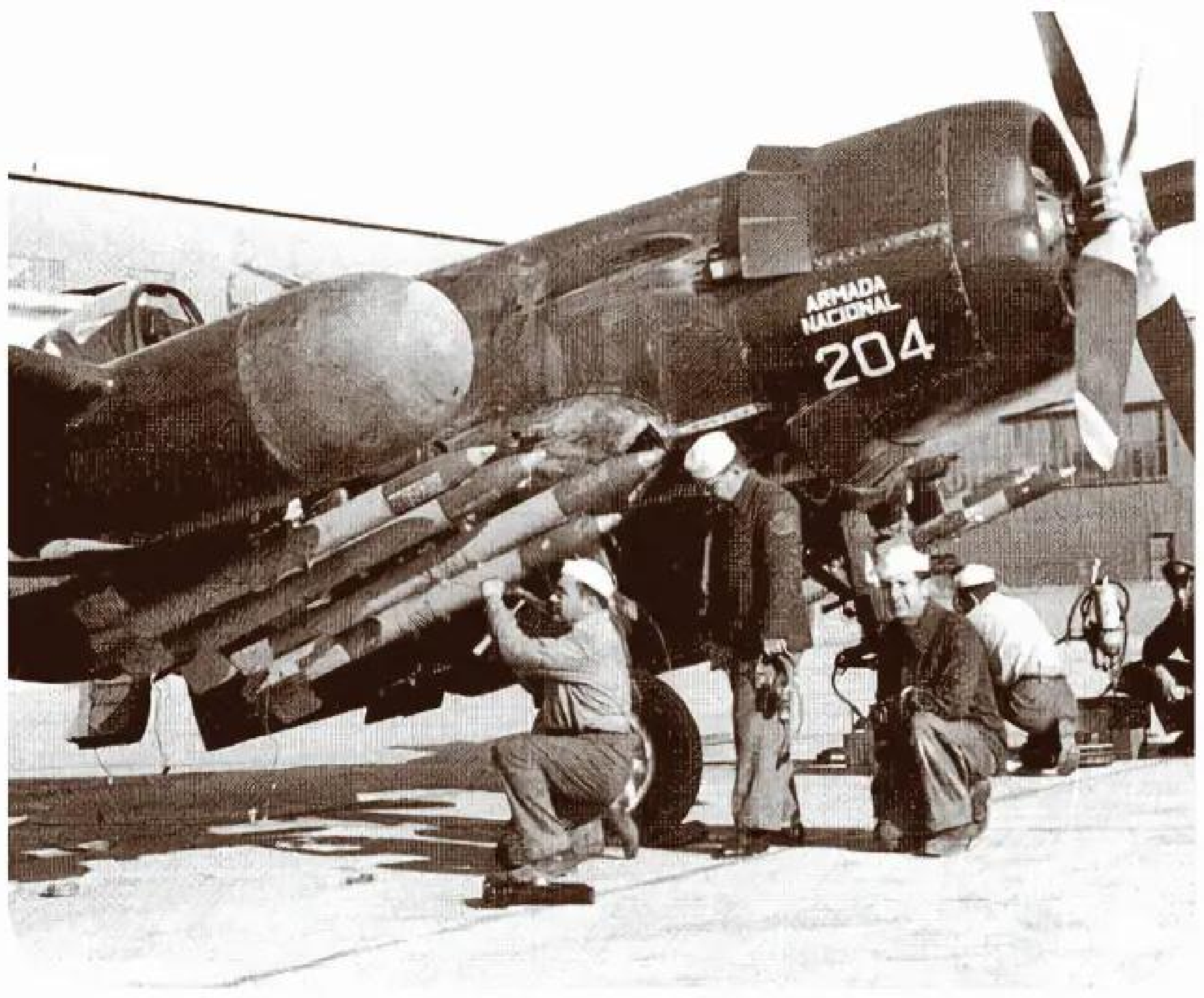
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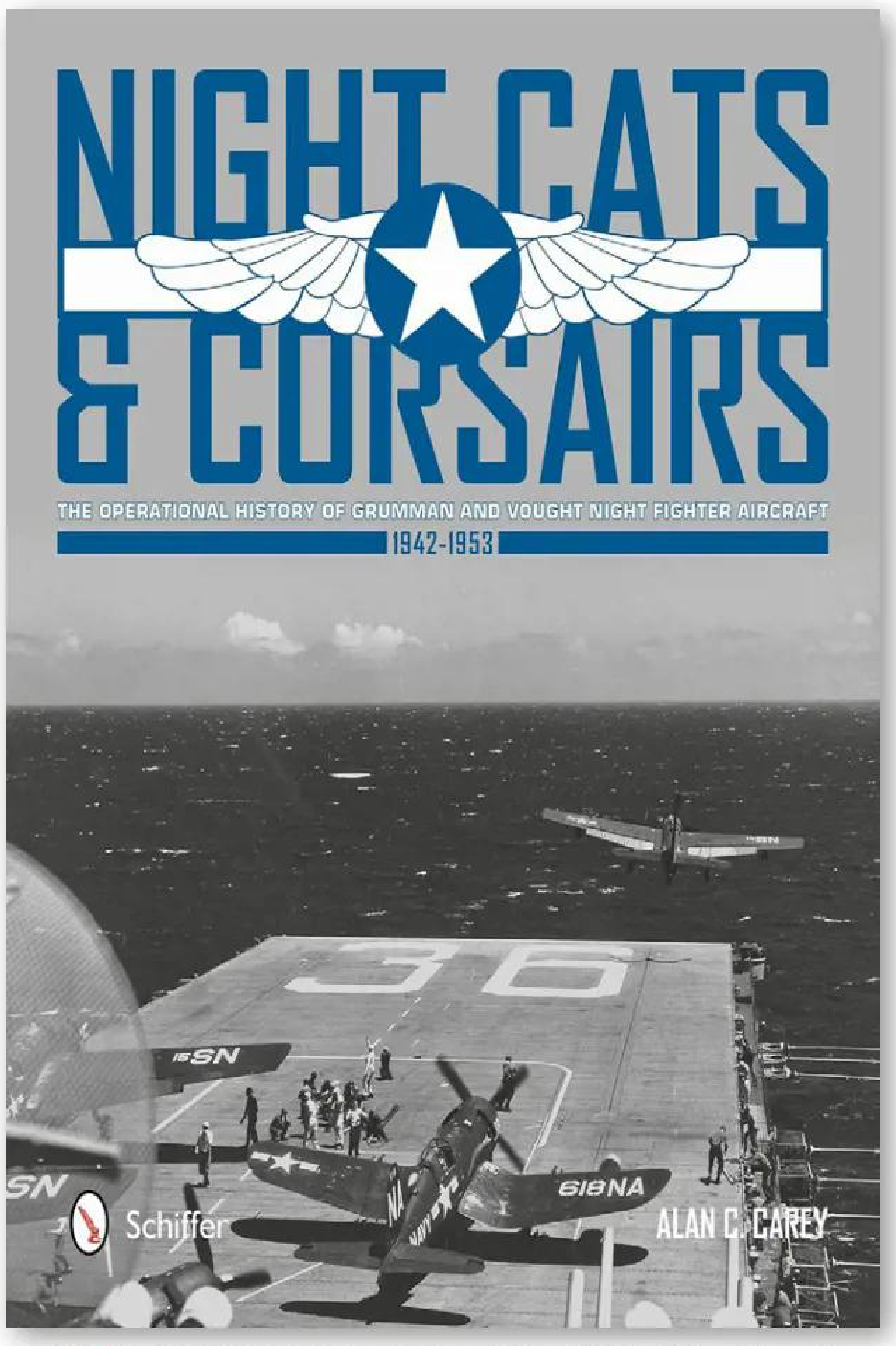
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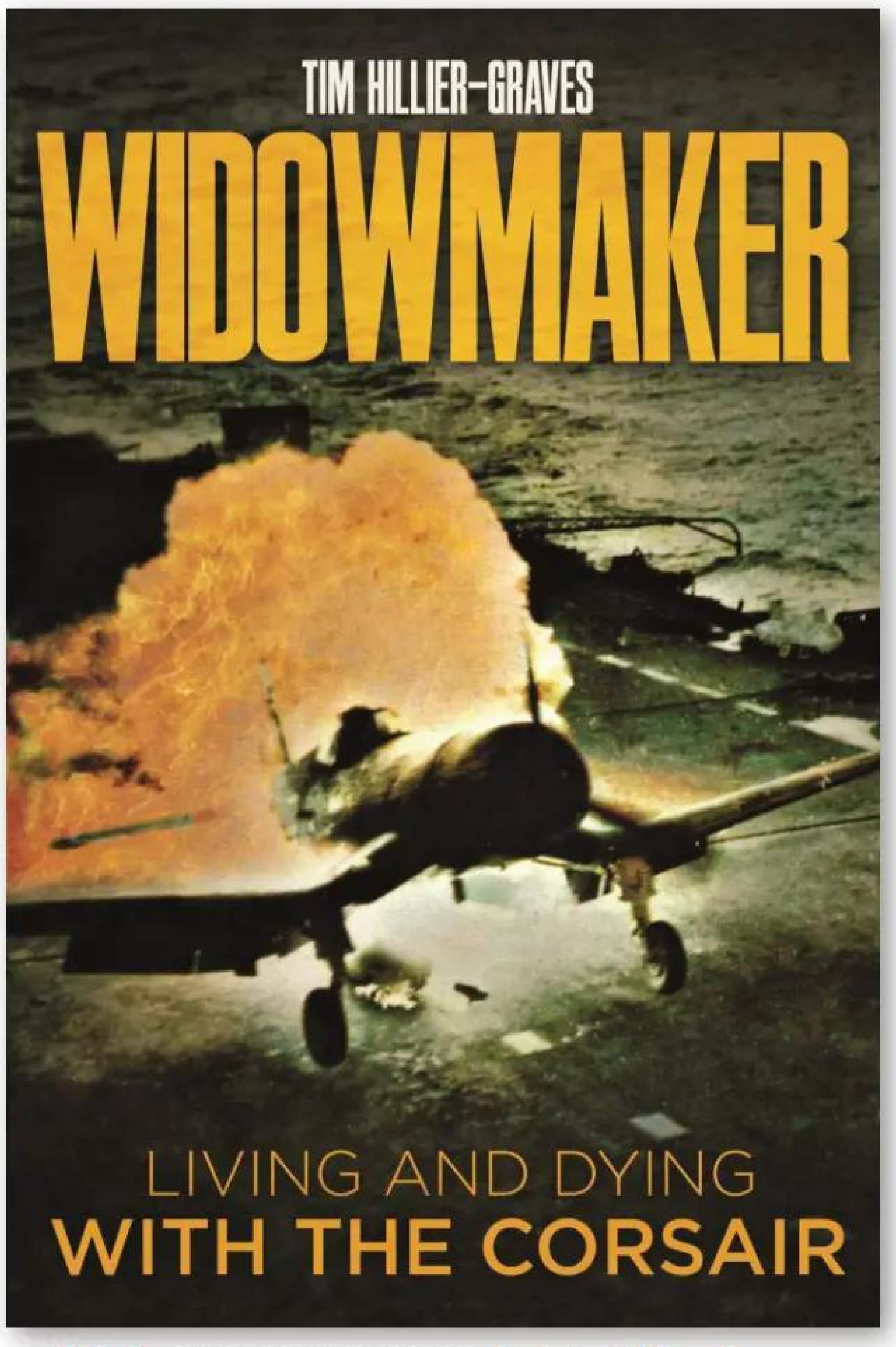
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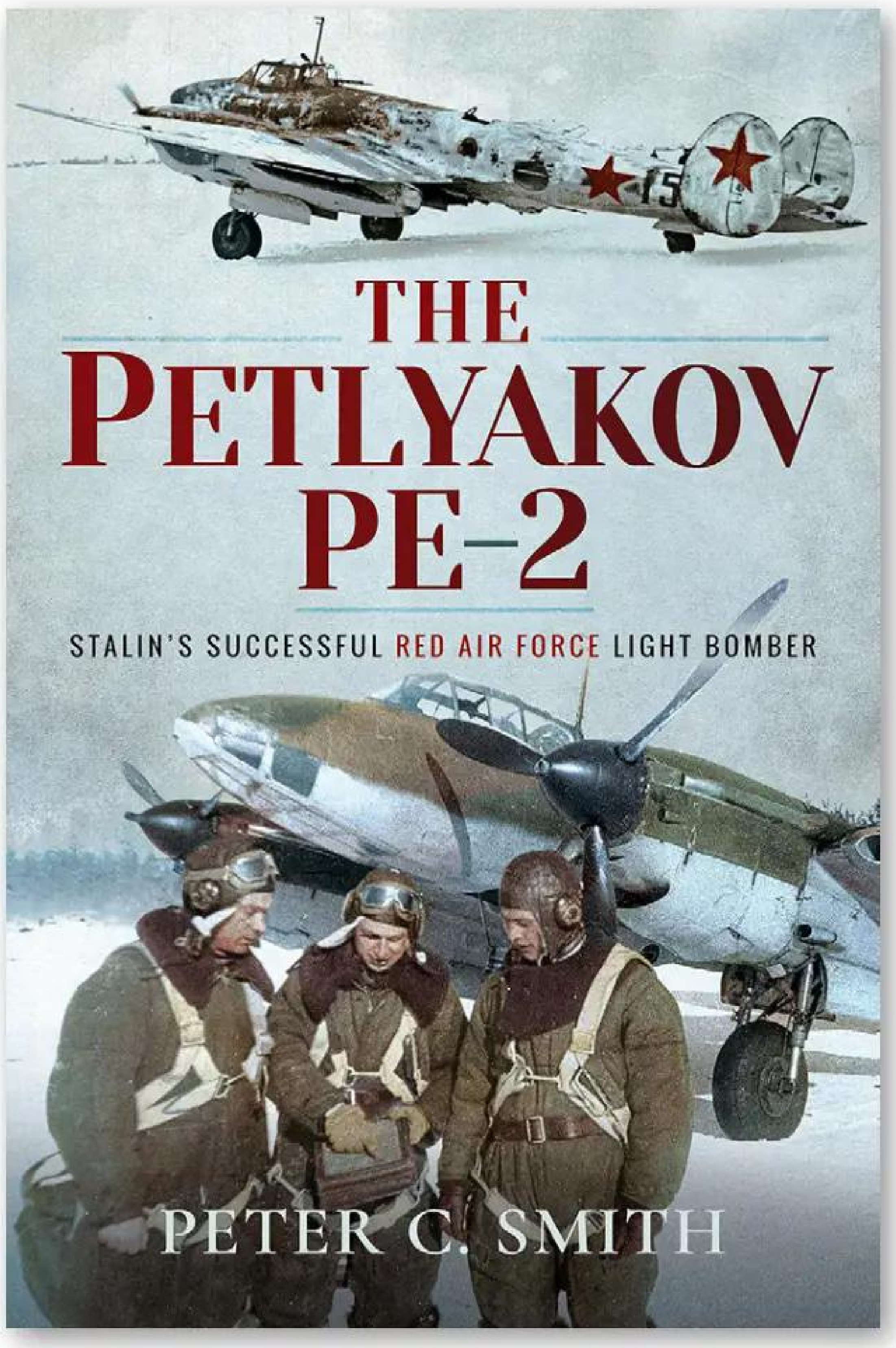
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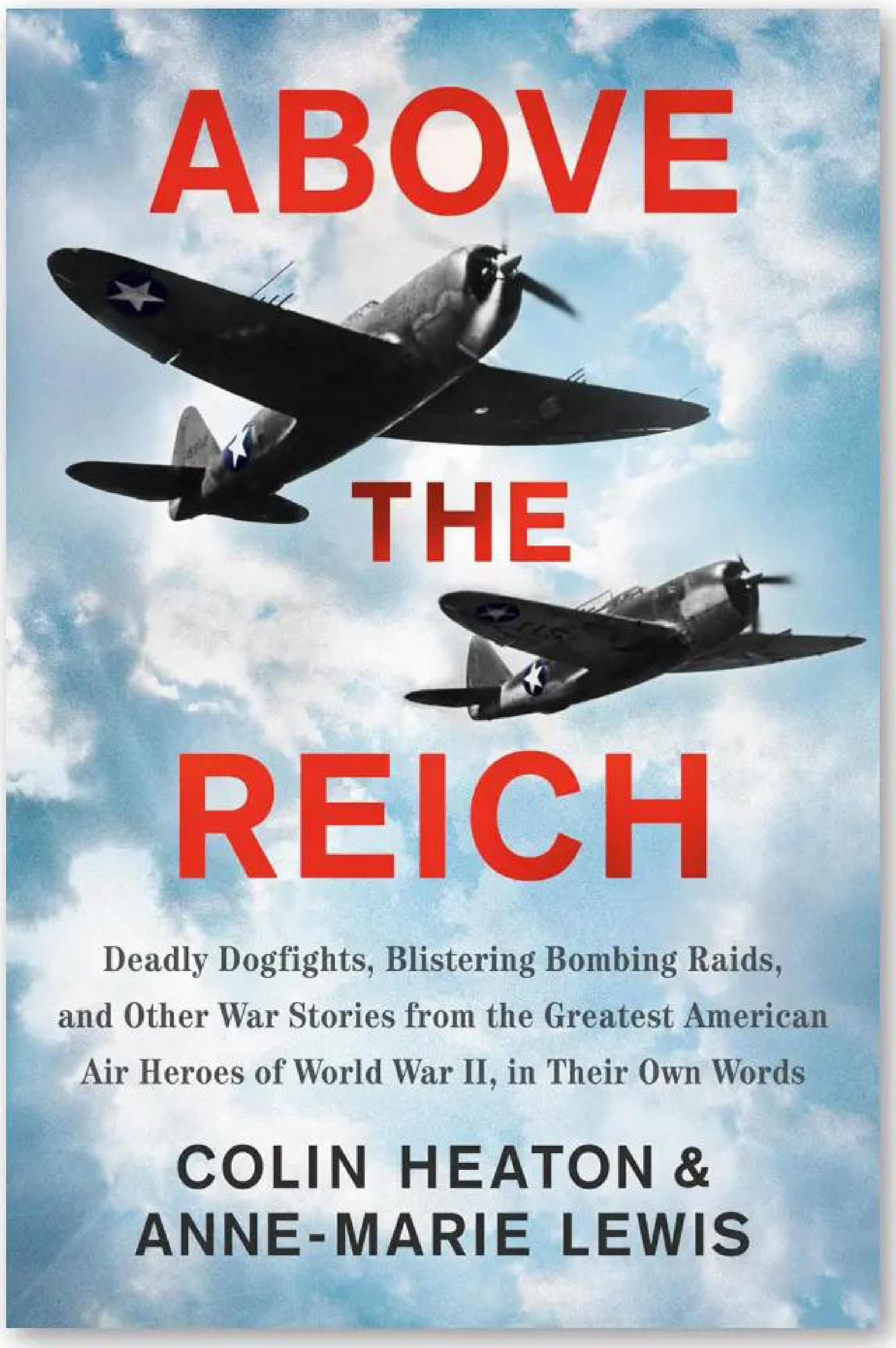
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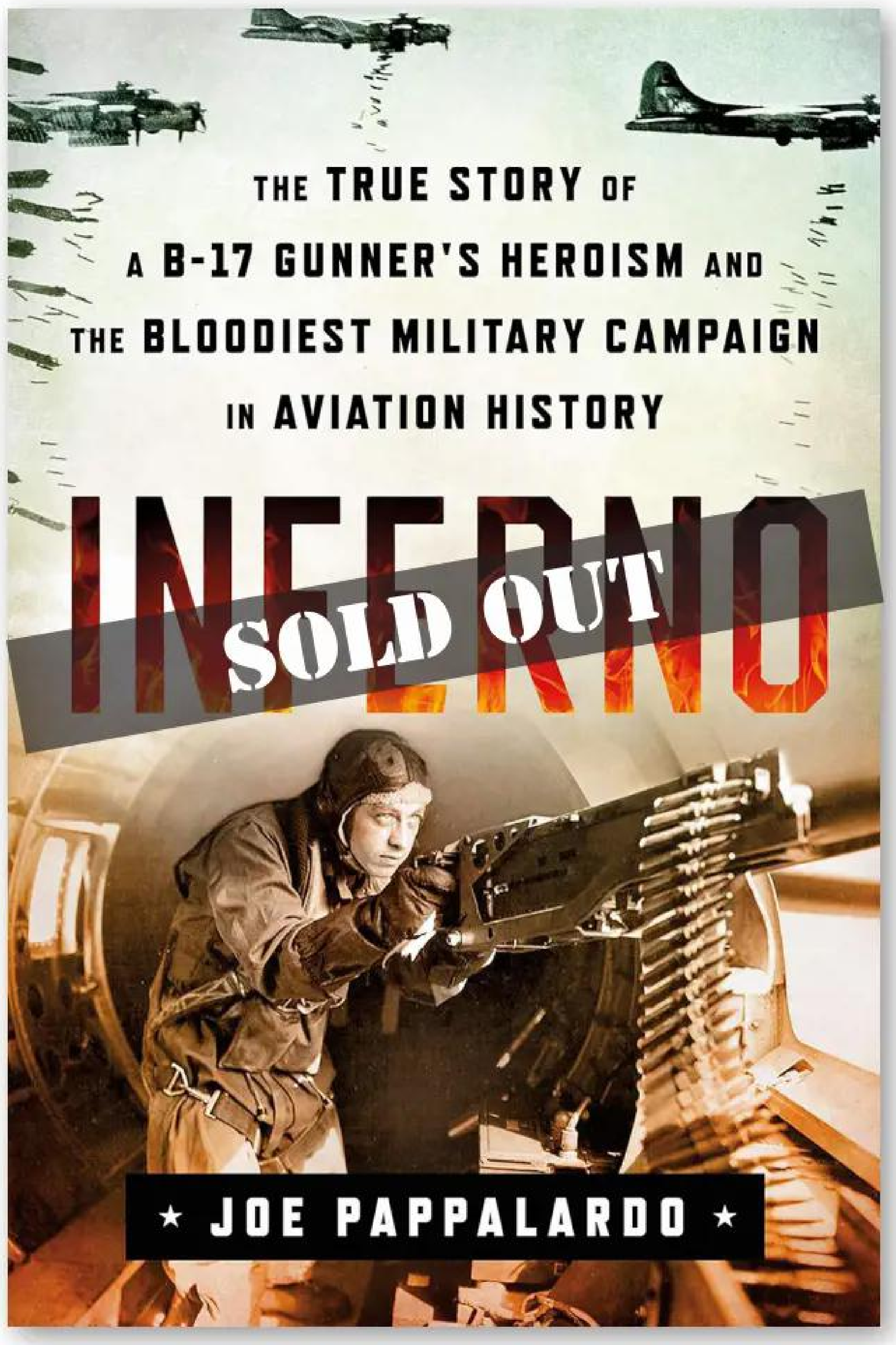
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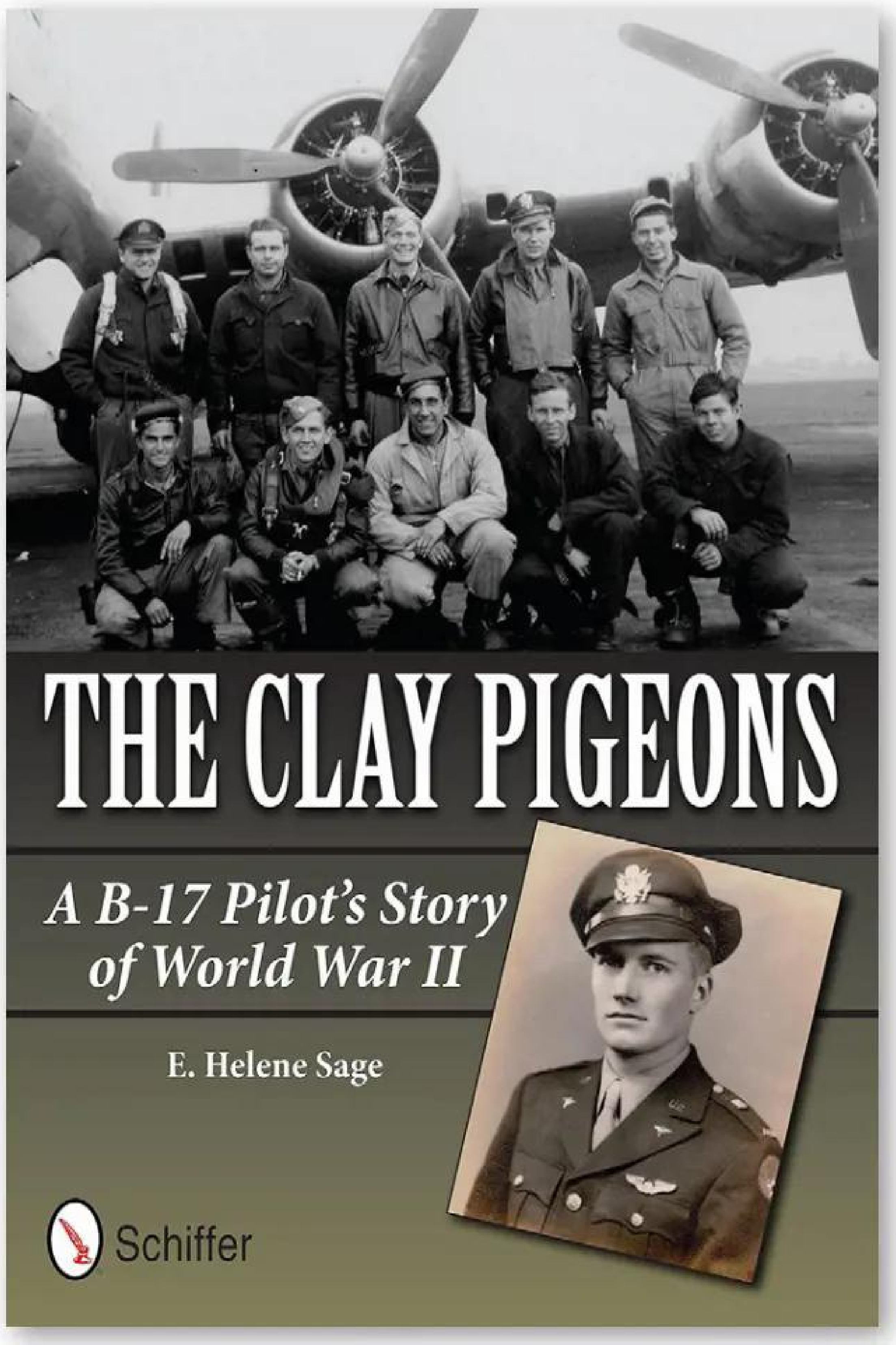
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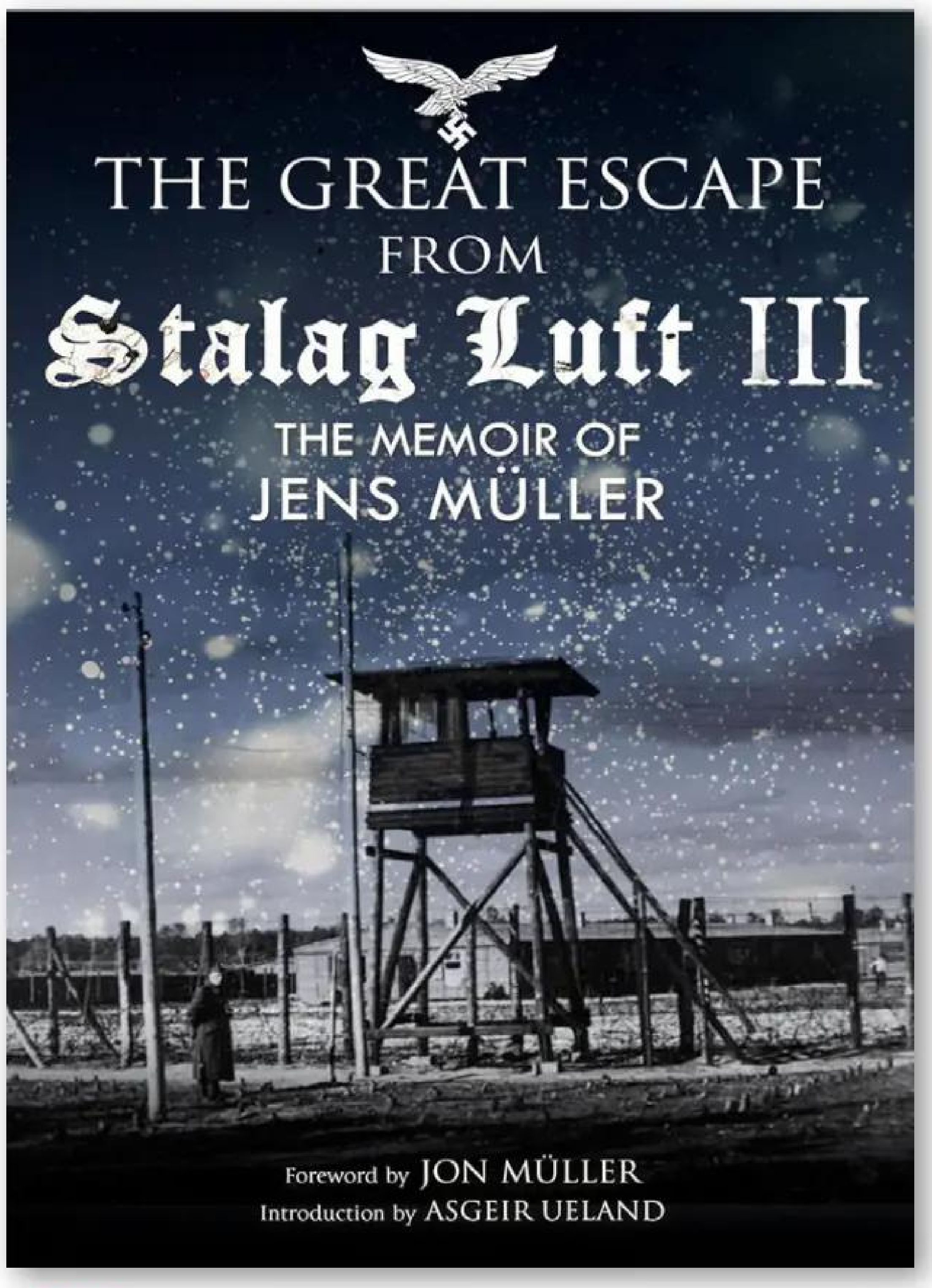
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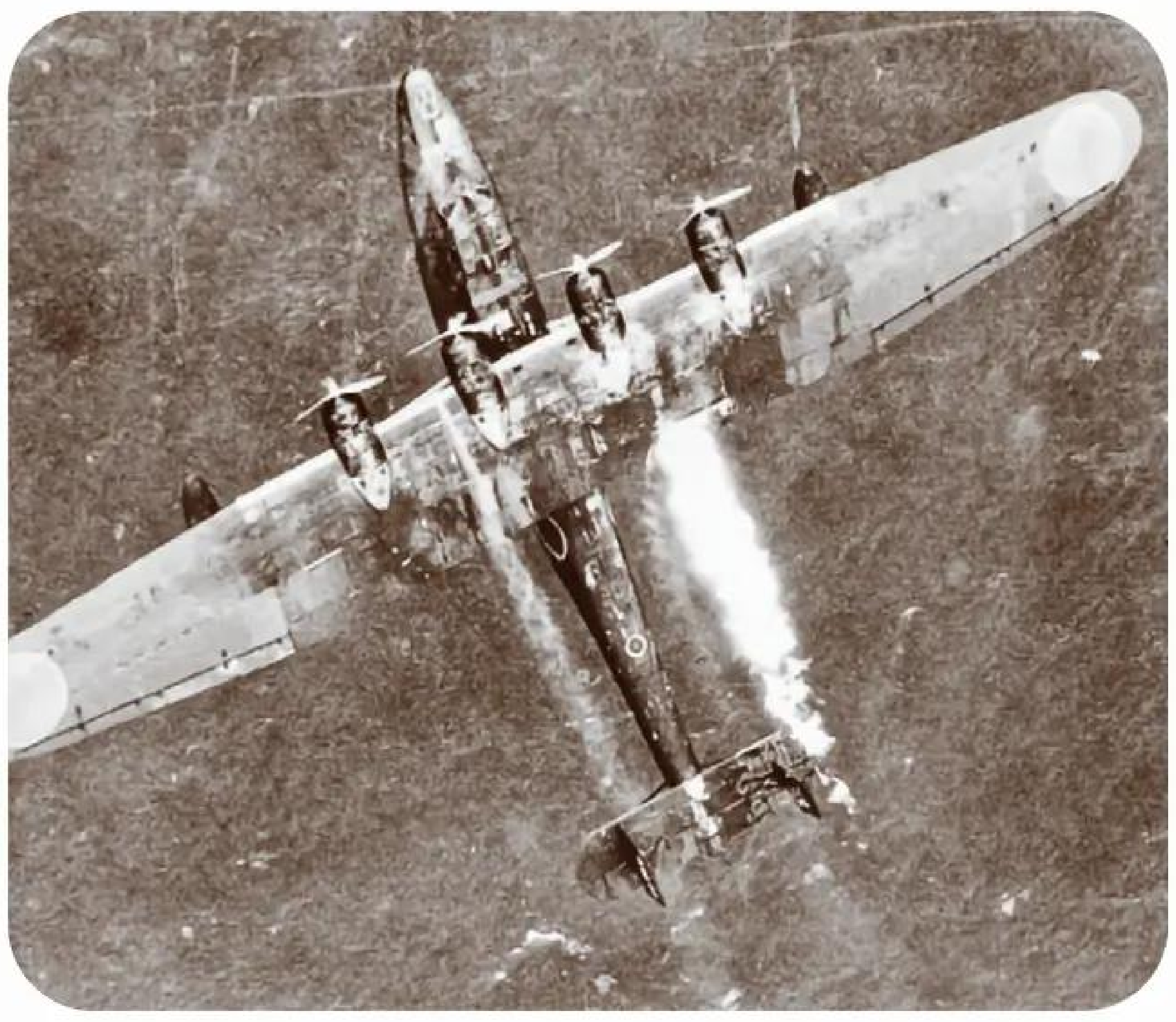

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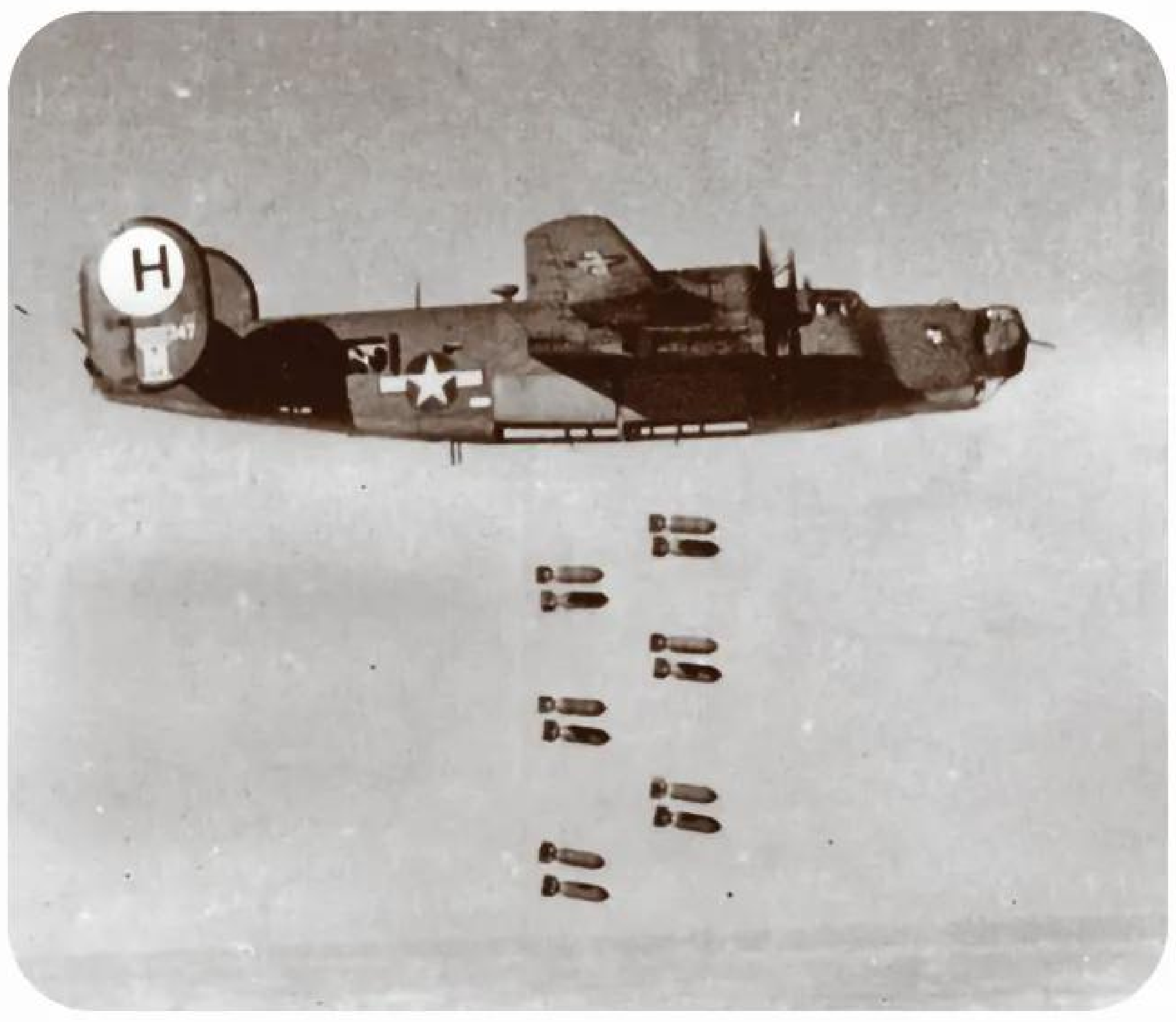

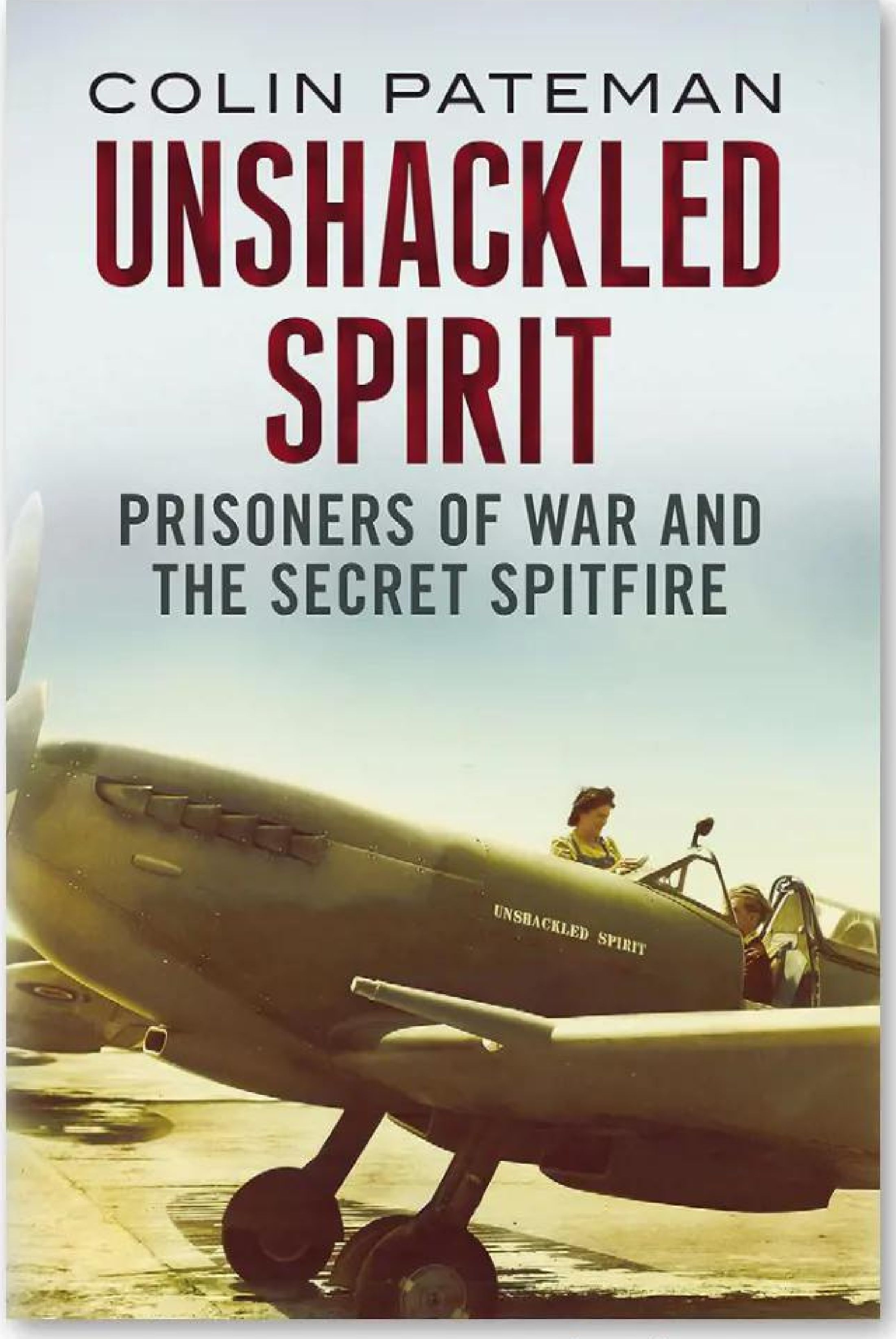
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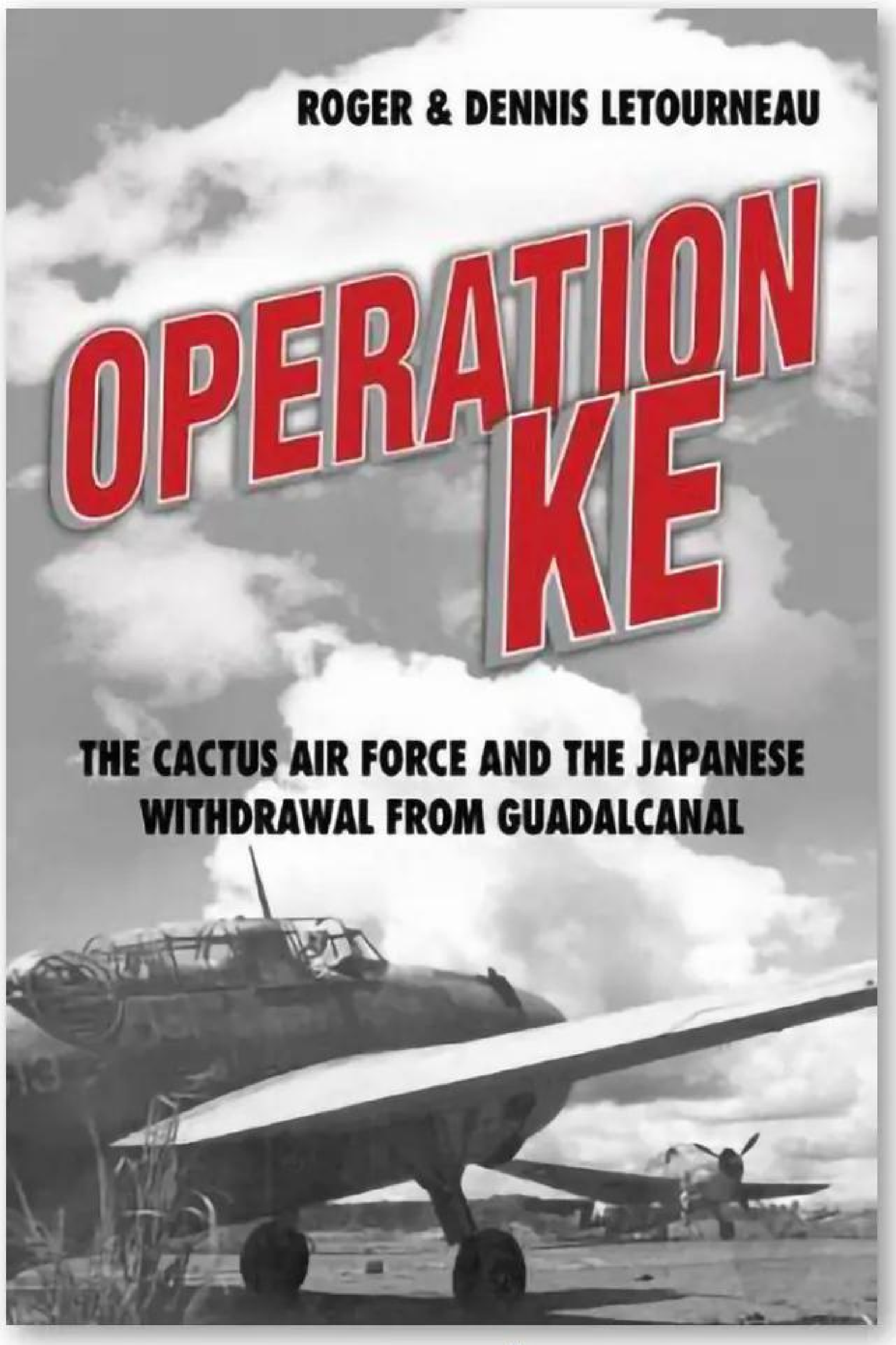
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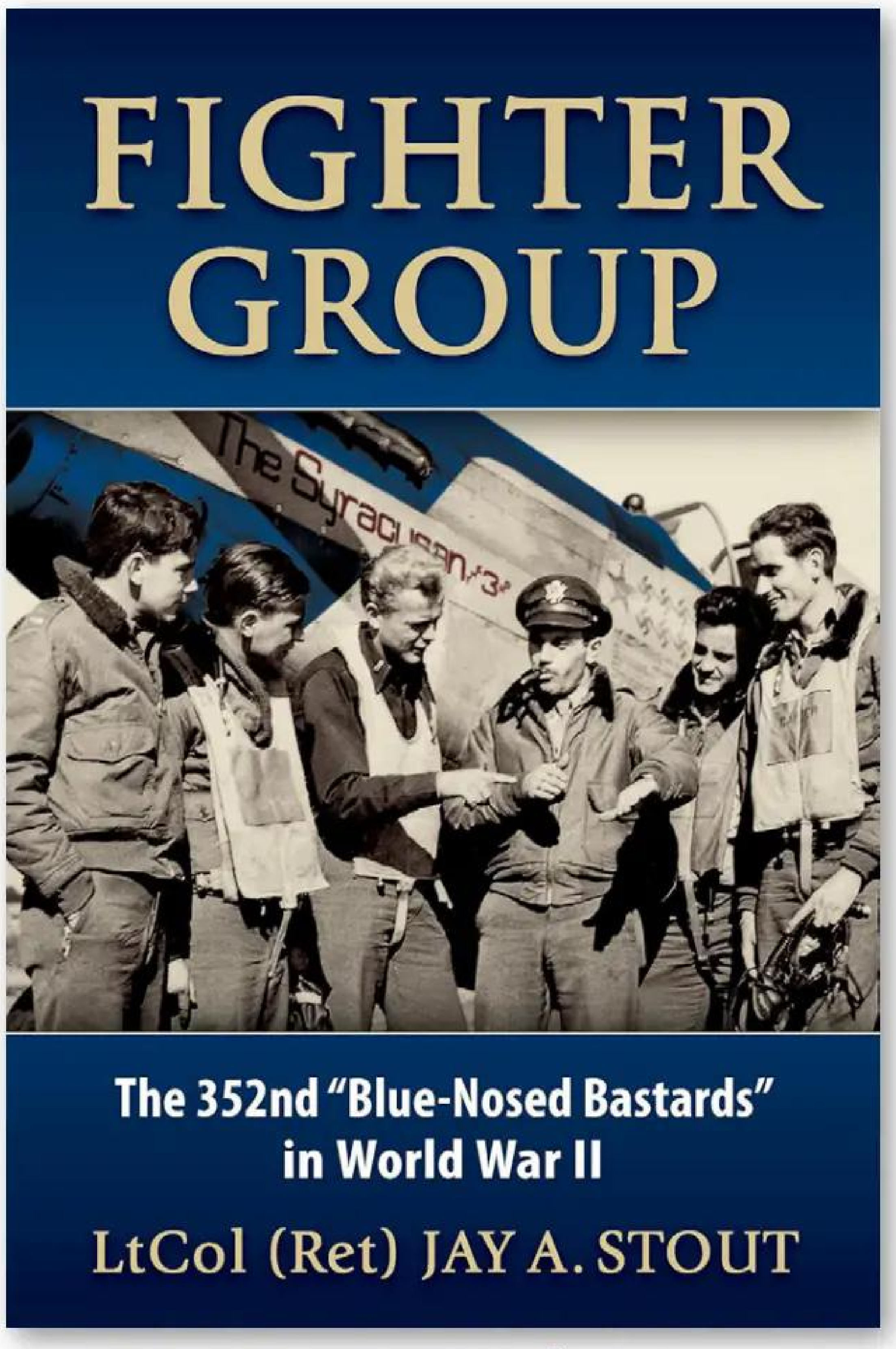
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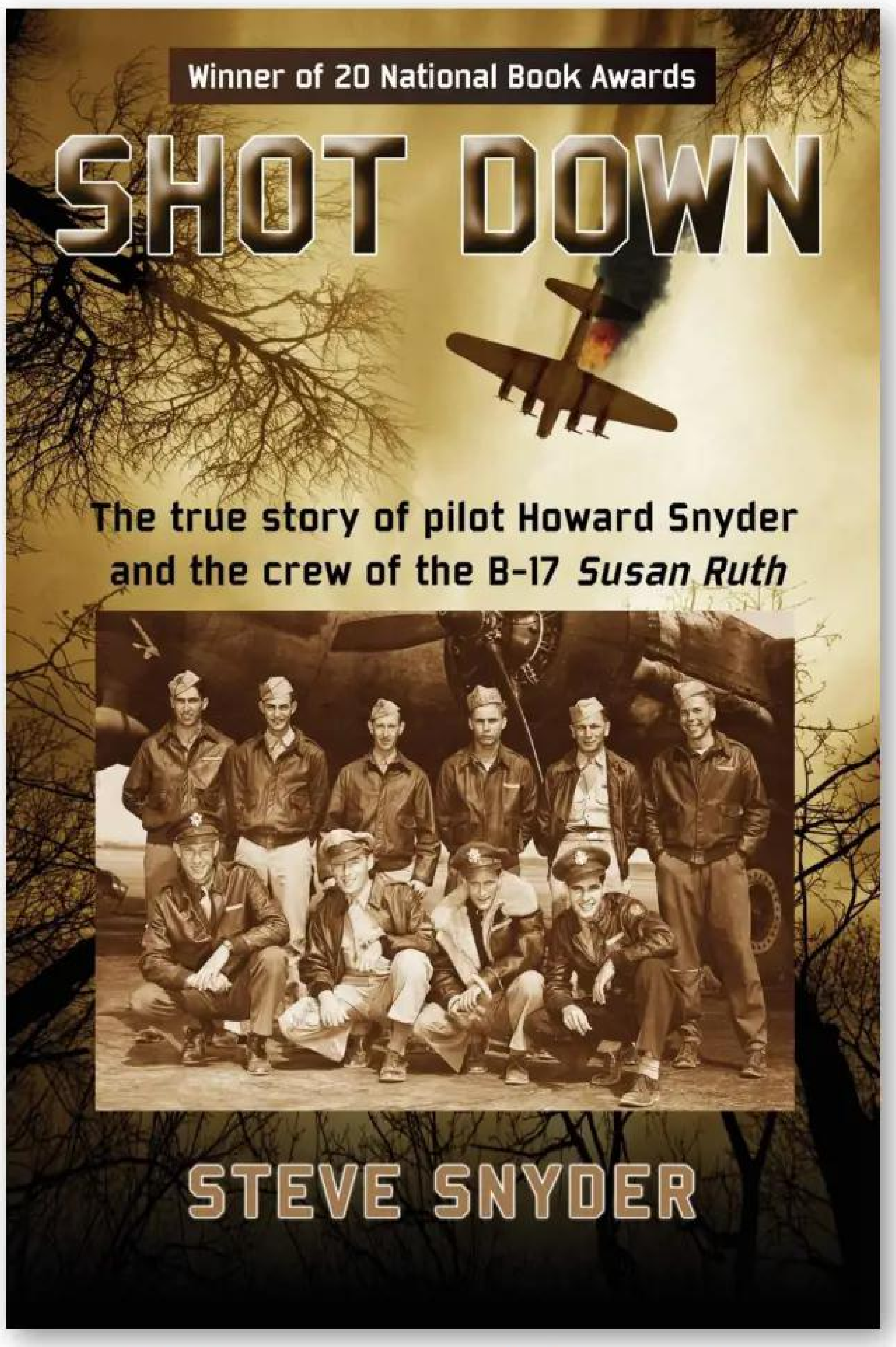
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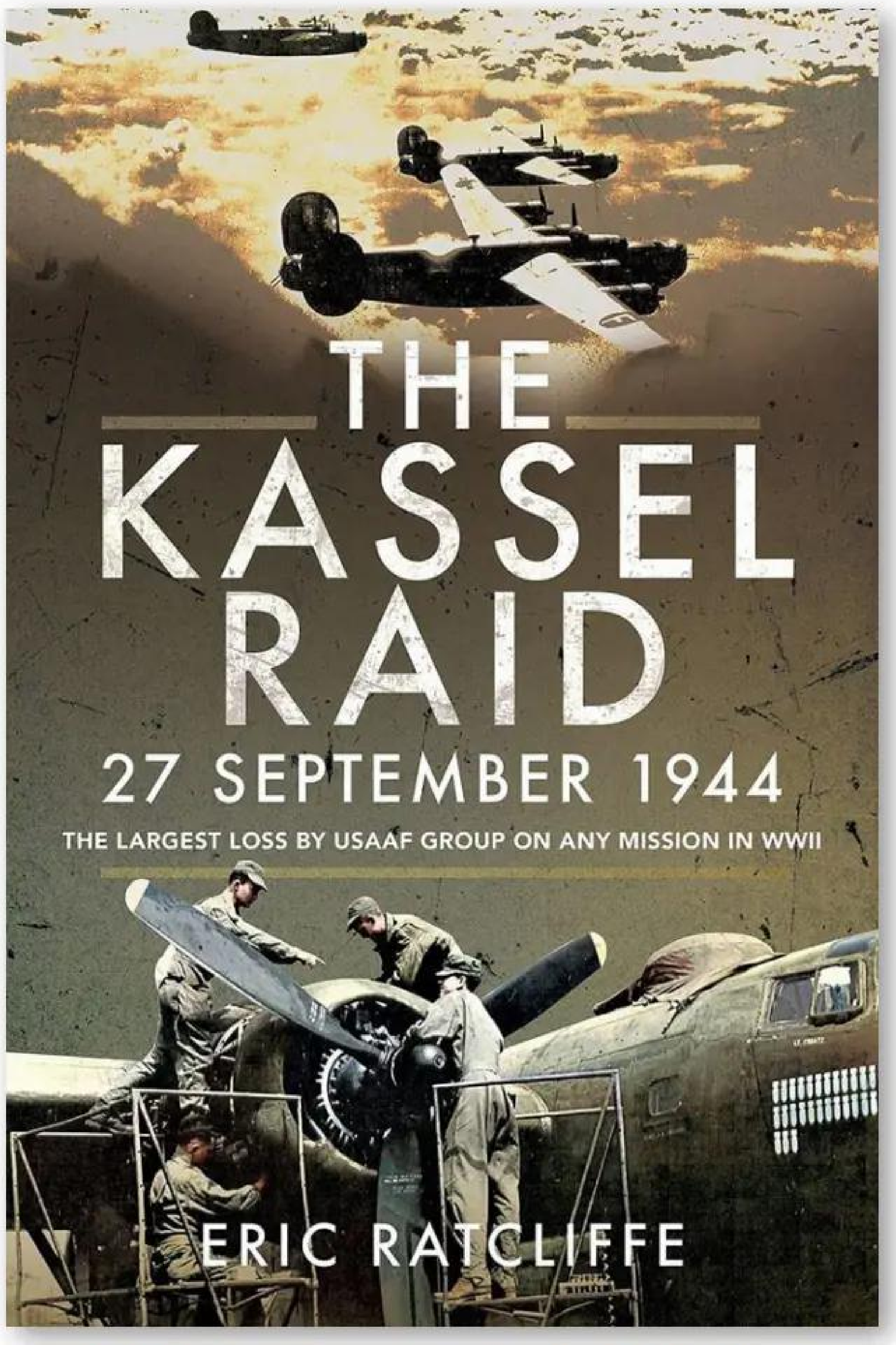
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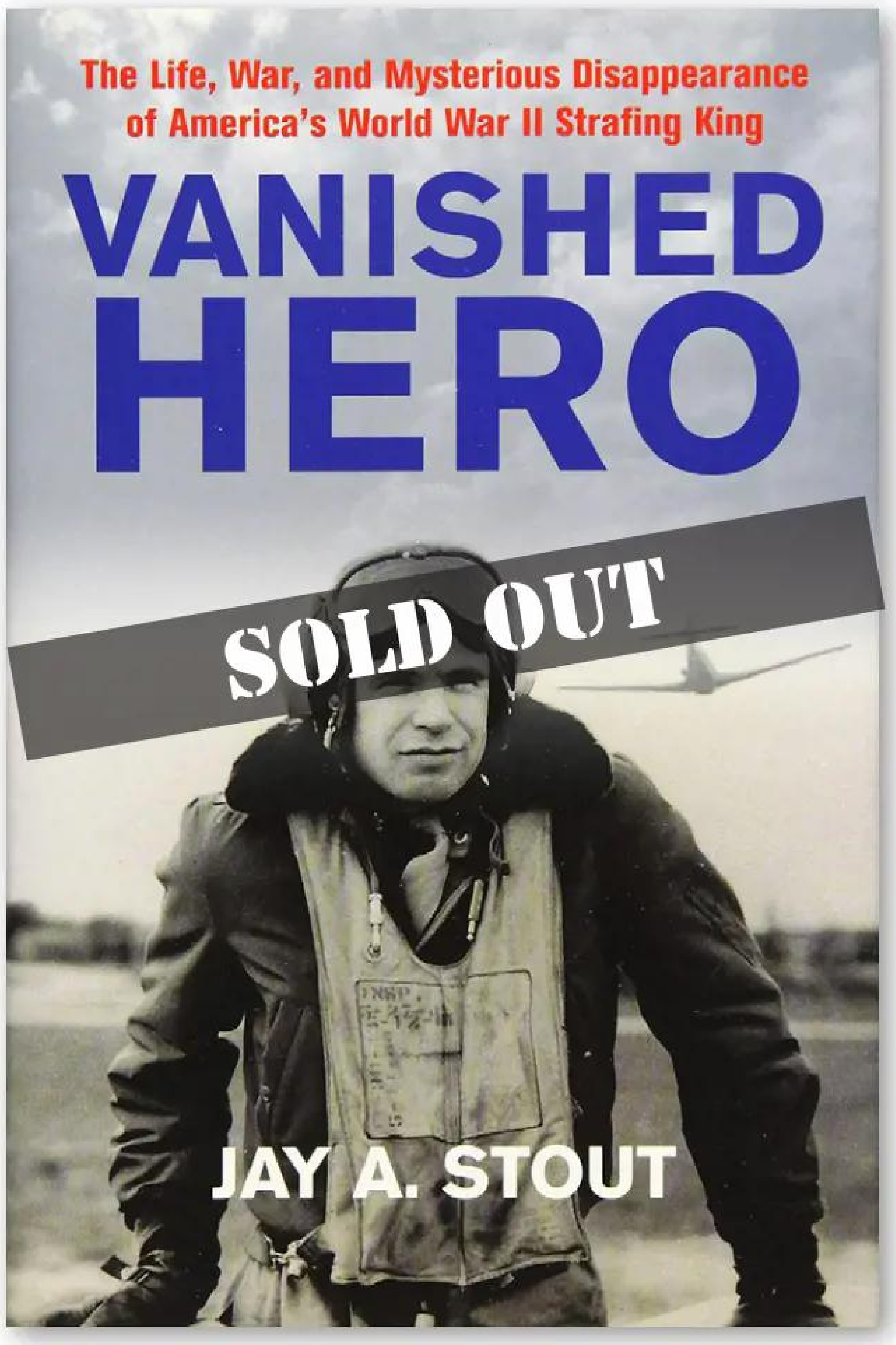
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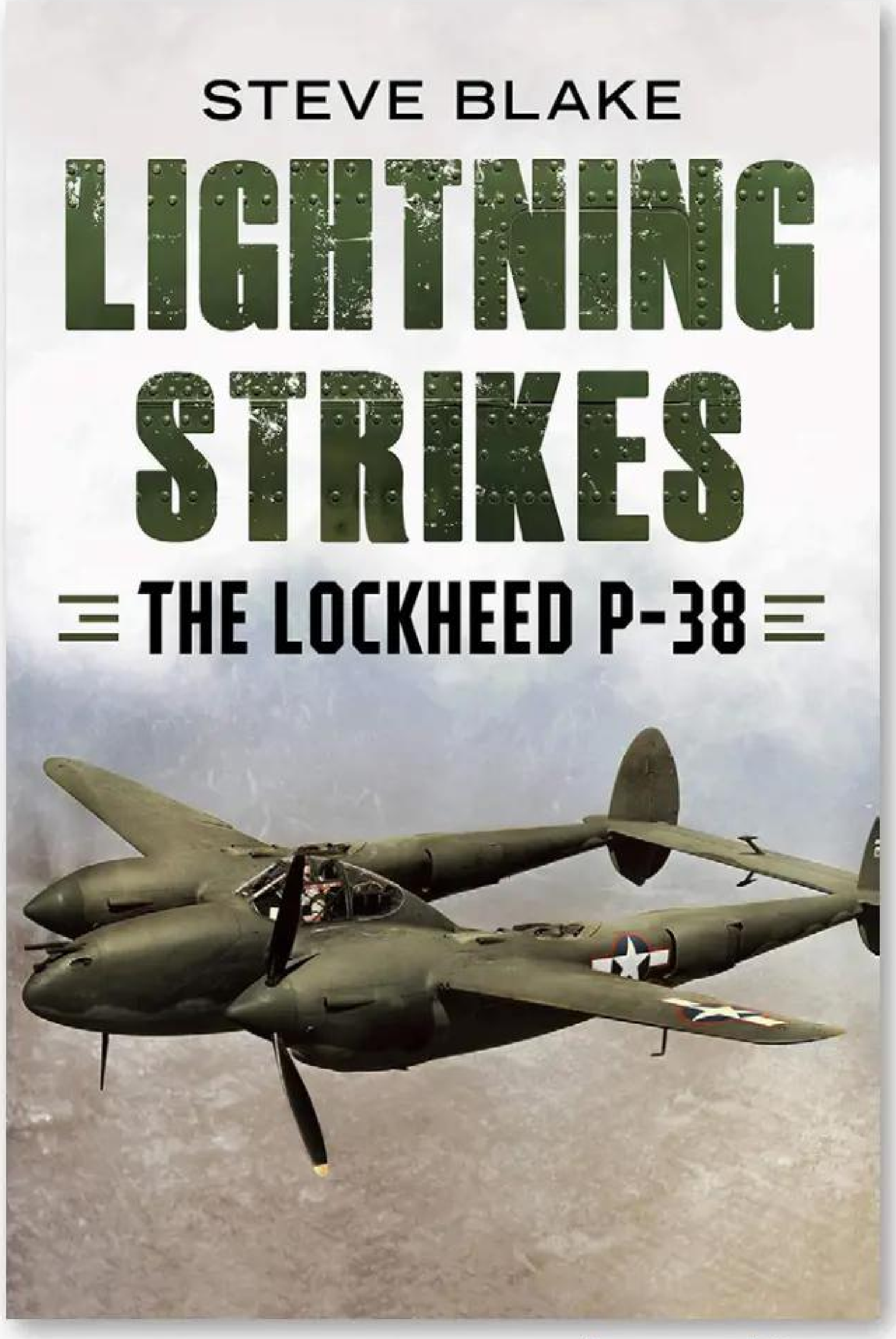

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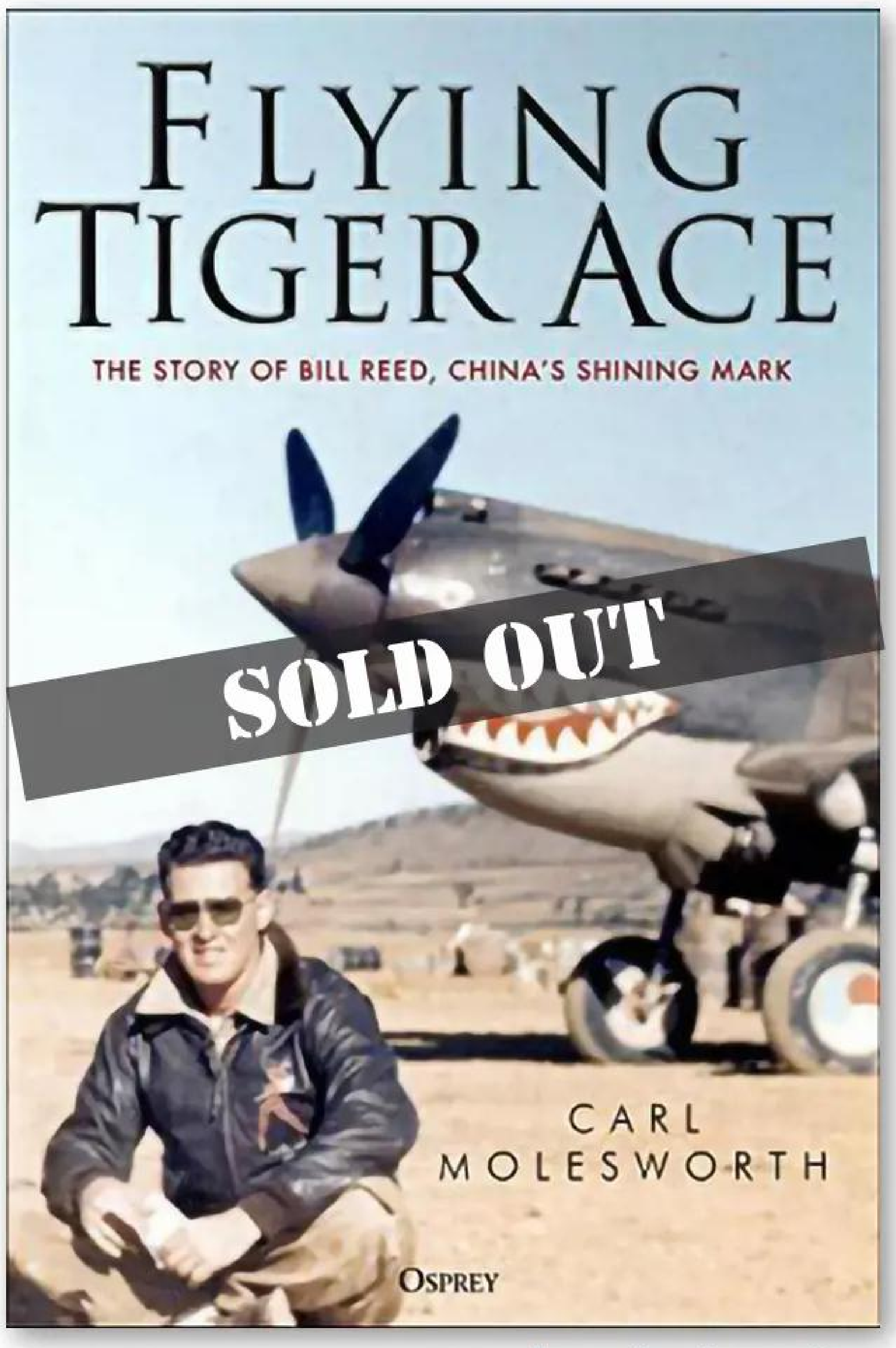

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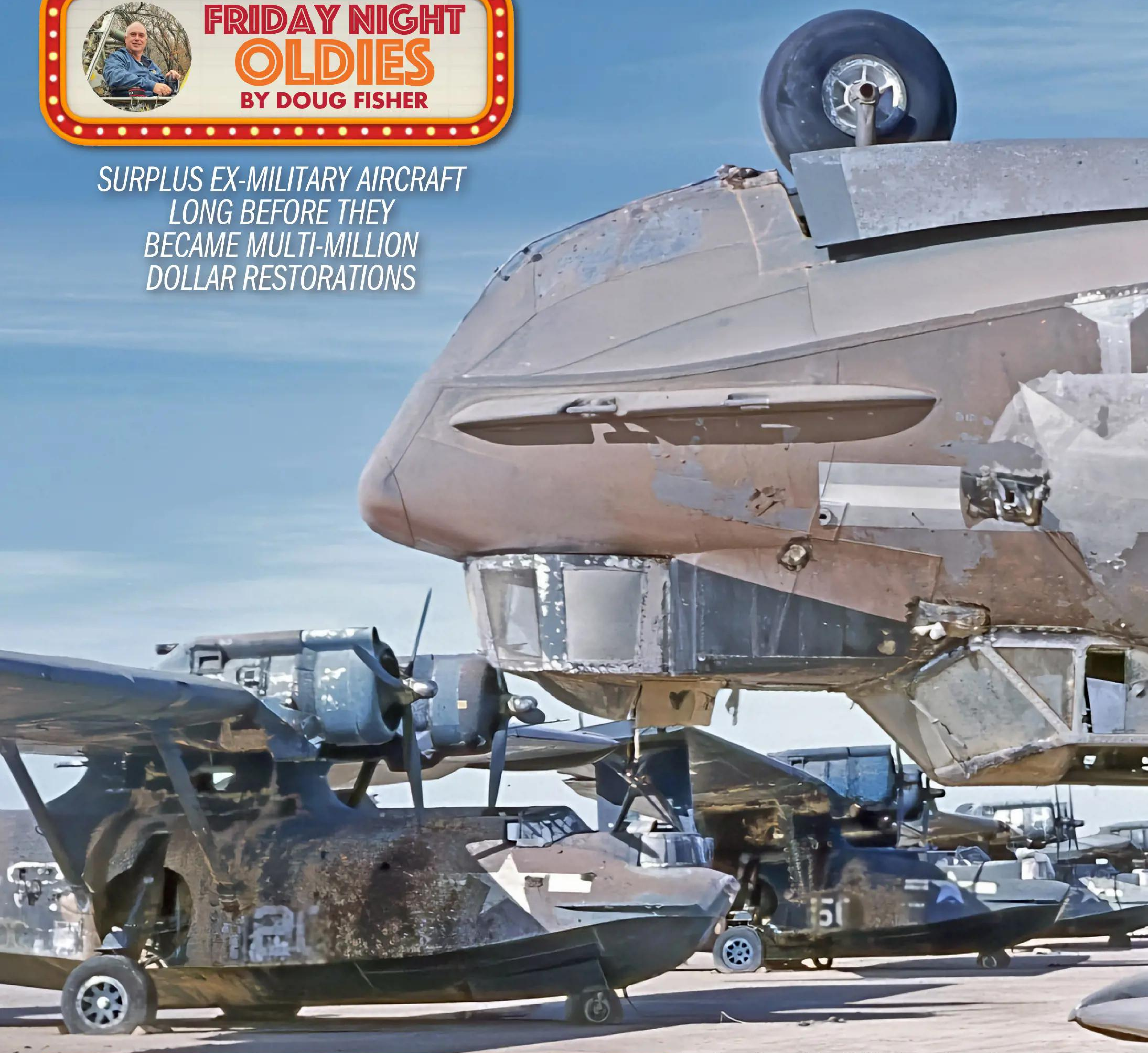
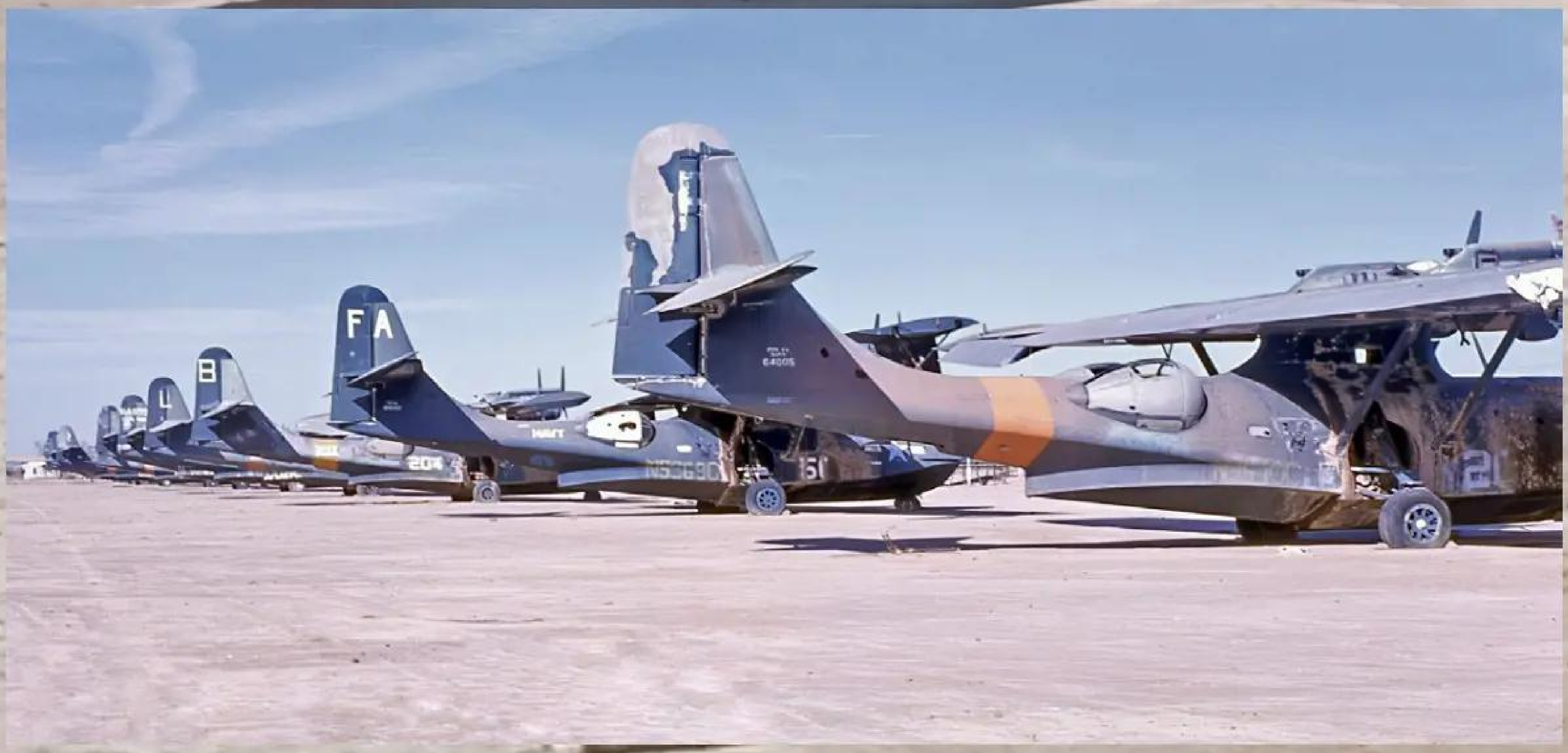
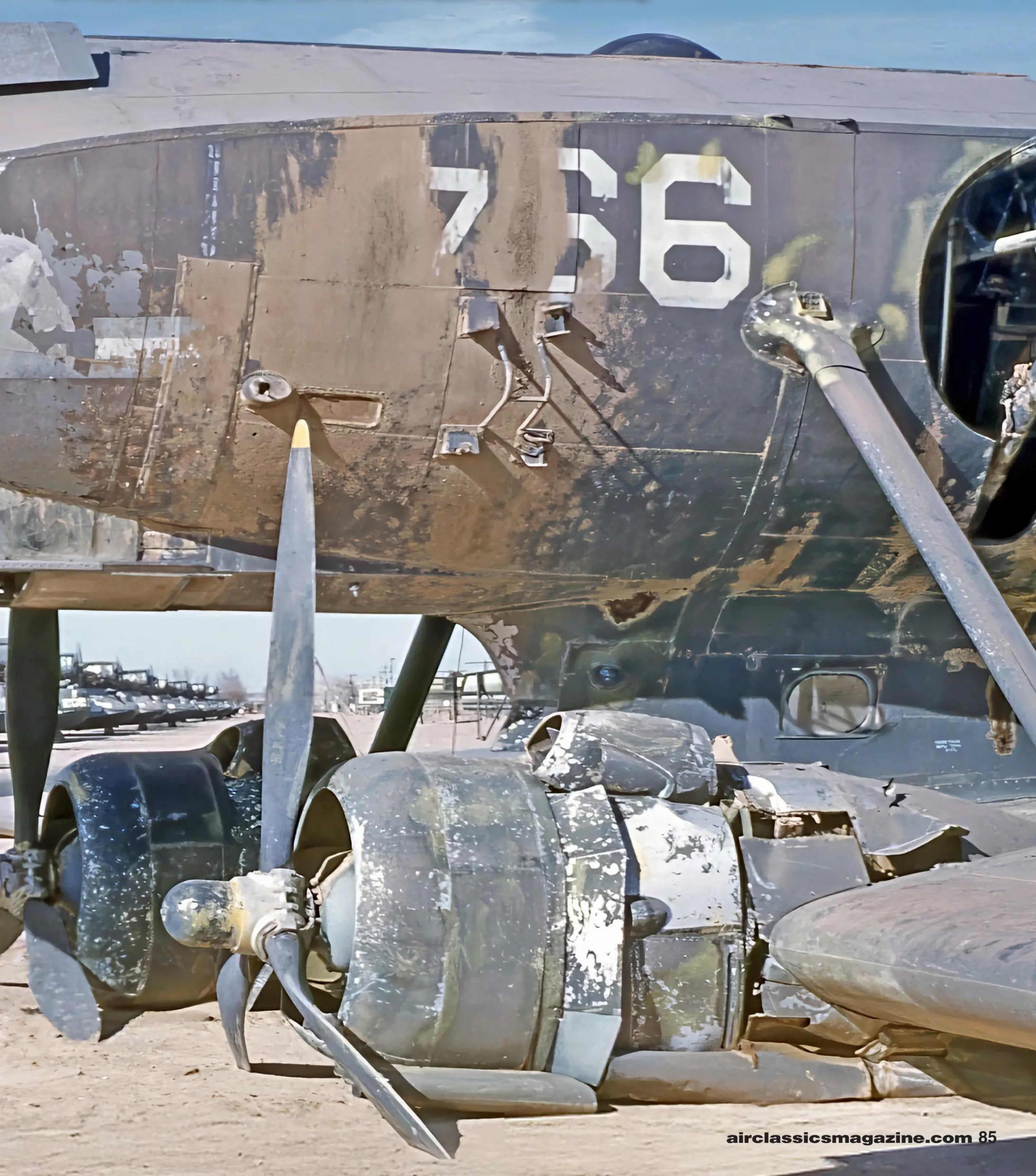
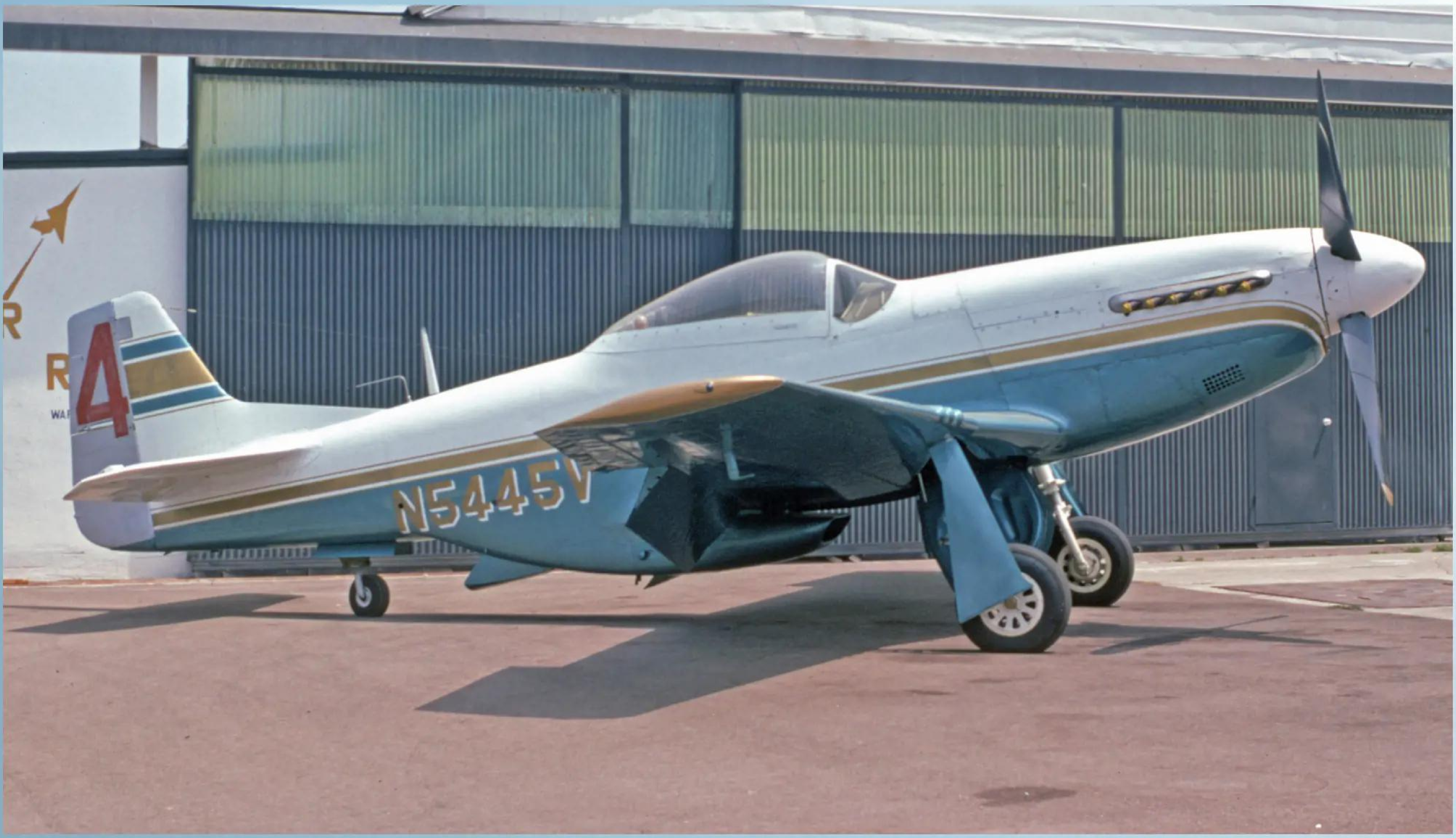




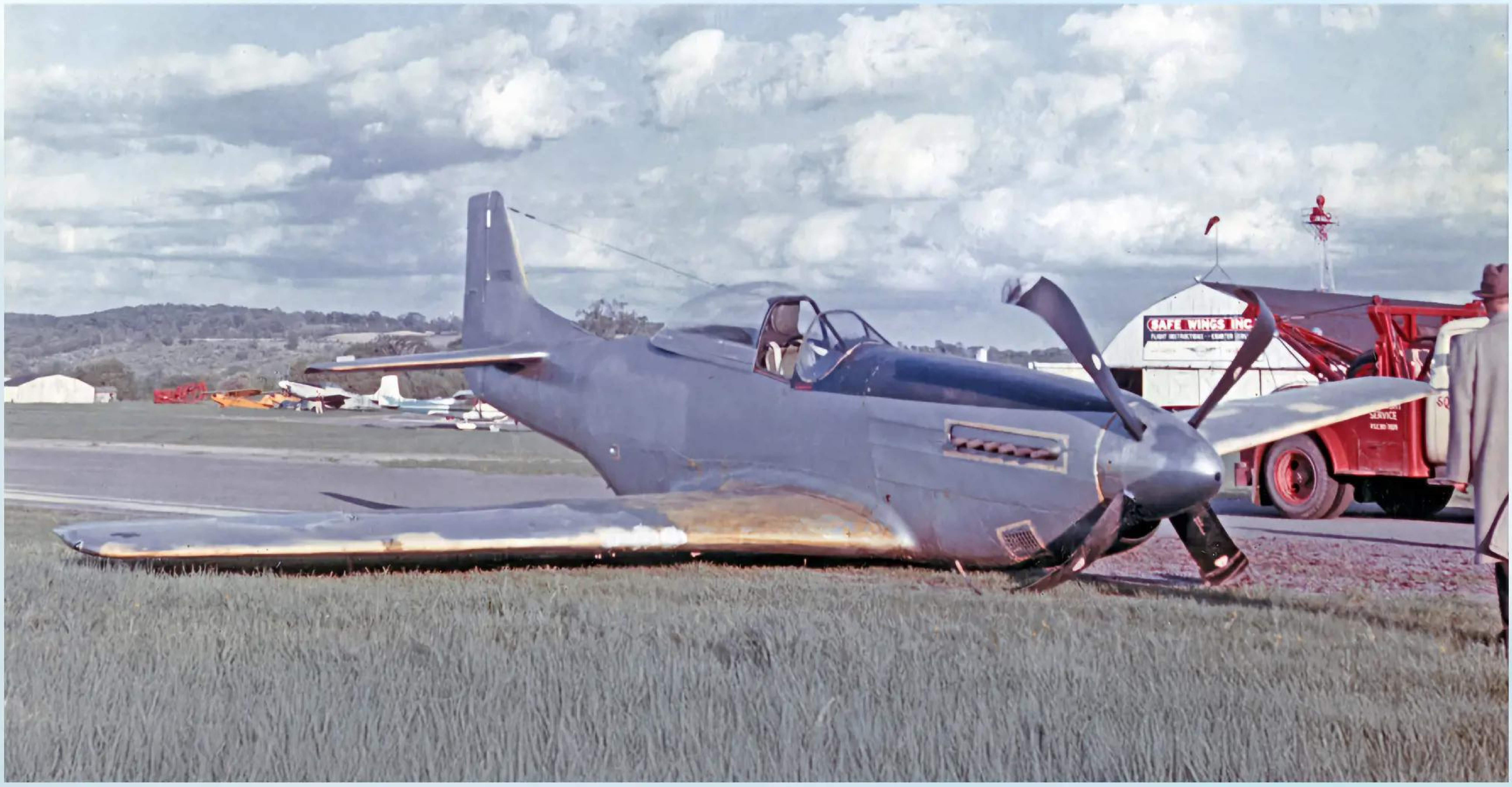
Another view of the PBY-6As at Casa Grande. The tail of the closest aircraft is BuNo 64005 and it had the registration of N9570C that was later changed to N7883B. The plane was owned by Aircraft Instrument Corporation and it simply disappeared. The second PBY-6A was BuNo 46649 and it actually had the N# N9569C painted with a brush on the rear fuselage/hull. It is unclear who the first owner was but the PBY-6A was soon modified as a fire-bomber by Jim Routh and was operating in conjunction with the US Forest Service. On 8 September 1958, the aircraft was working a fire near Pozo, California, when the pilot came in too low and hit trees with the right wing. The wing came off and the Cat crashed, killing both pilots. This was probably the first Catalina fire-bomber fatal accident.

As the Navy sold off its Consolidated PBY Catalina assets from NAF Litchfield Park and other bases during the late 1950s, there was an initial rush to purchase these aircraft along with masses of spare engines and components. Many buyers had great plans for the surplus Catalinas. Some envisioned them being turned into aerial yachts while others had more workaday ideas in mind such as converting the planes to large acreage sprayers, fire-bombers, and cargo haulers. This group of tall-tail PBY-6As was made airworthy at Litchfield Park and flown to then-remote Casa Grande Airport in Arizona where they were neatly parked by the main road leading into town when photographed during May 1957. Some had ferry N numbers applied to the fuselages while others did not. Some had the majority of their US Navy markings painted out while others didn't. Who owned this large collection of Cats? It is a bit difficult to say but one of the main owners was Aircraft Instrument Corporation of Miami. However, it is hard to find specific information on the company or their intentions for the PBY-6As. Some were sold on to civil operators while a few went to foreign air forces. Several of the other Cats in the line-up were owned by pioneering fire-bomber operators who converted their planes as aerial tankers. However, it seems the majority simply disappeared and perhaps they were scrapped at Casa Grande. If anyone has further knowledge, we would appreciate hearing from you. As can be seen, the Cat in the foreground has come to grief as it was not tied down nor did it have the wind distruptors mounted atop the wing.

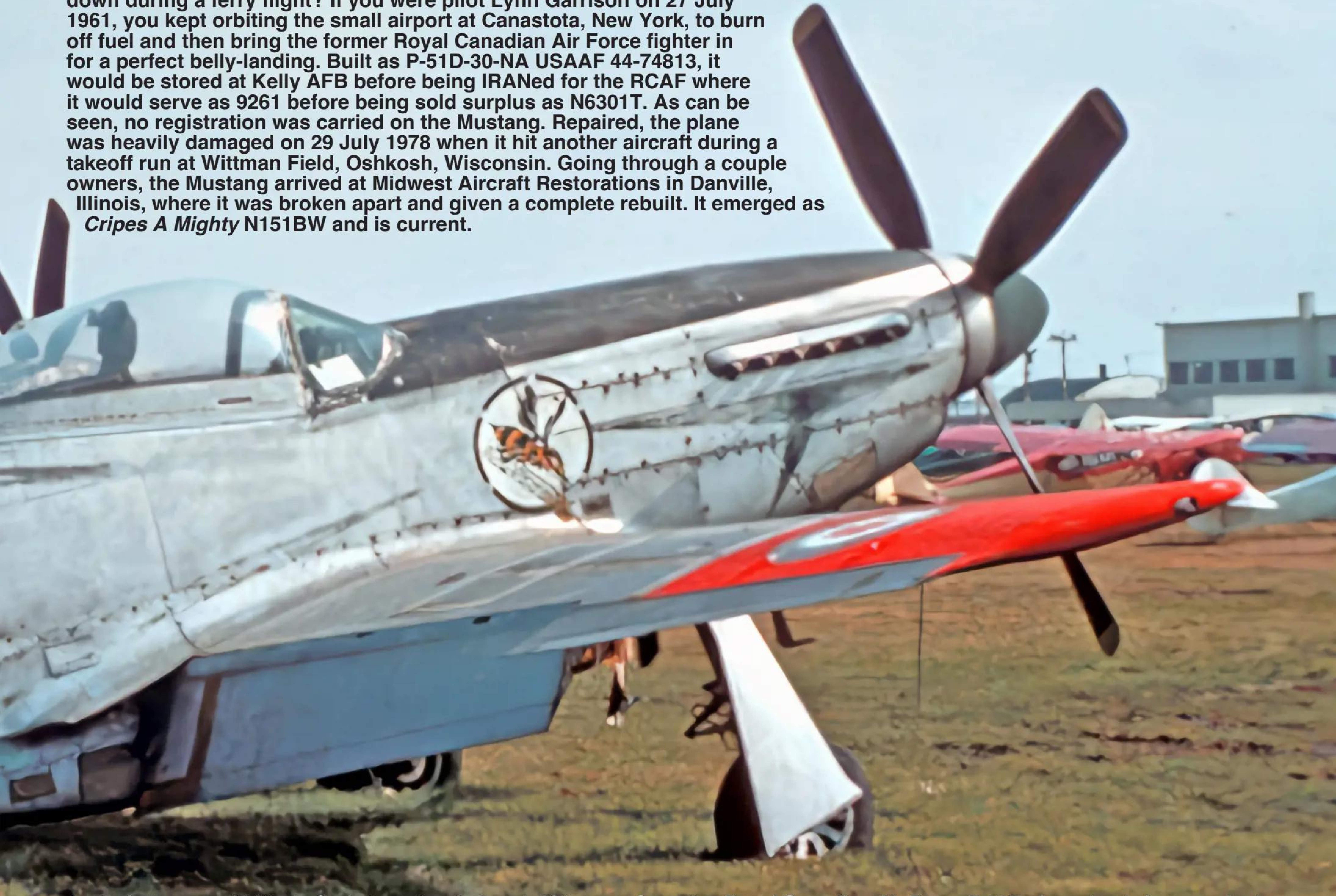




Parked on the Aero Sport ramp at Chino Airport, P-51D-25-NA USAAF 44-73287 N5445V has been listed as an actual combat aircraft that reportedly served with the 503rd Fighter Squadron, 339th Fighter Group, at Fowlmere, England, as D7*J *Worry Bird* but there is some doubt about this attribution. What is known is that this Mustang served with various Stateside and ANG units, finally flying with the Kentucky ANG before being flown to McClellan AFB where it was sold surplus in 1958 for $957.58. The stock Mustang competed at several air races (hence the Race 4 on the rudder) and in 1977 it was purchased by Mark Clark of Courtesy Aircraft who comments, "I was 27 or so when I bought the plane at Aero Sport. It had taken me a while to gather the funds to buy a P-51 and this was my one shot at a Mustang. Frank Strickler did the test flight and flew it home to me at Rockford, Illinois, where we did some work on the plane. He then came out and checked me out in 45V. I kept it for three years and flew it about 150 hours. The plane is now owned by Mike George and about ten years ago he let me fly it — 37 years to the day since I first flew 45V. Over the years, Courtesy has sold this Mustang four times and that must be some sort of record. Those were the days!"

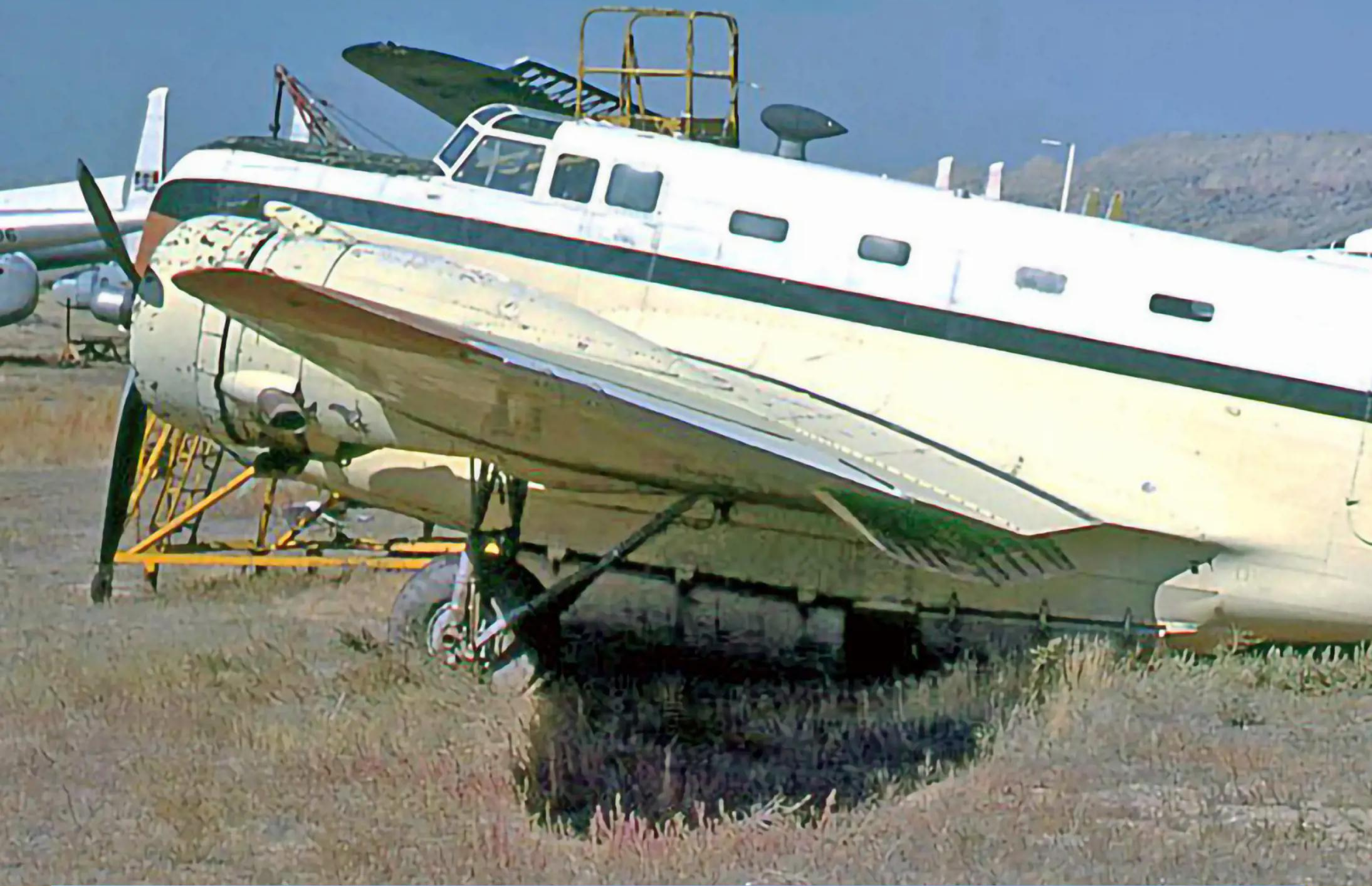


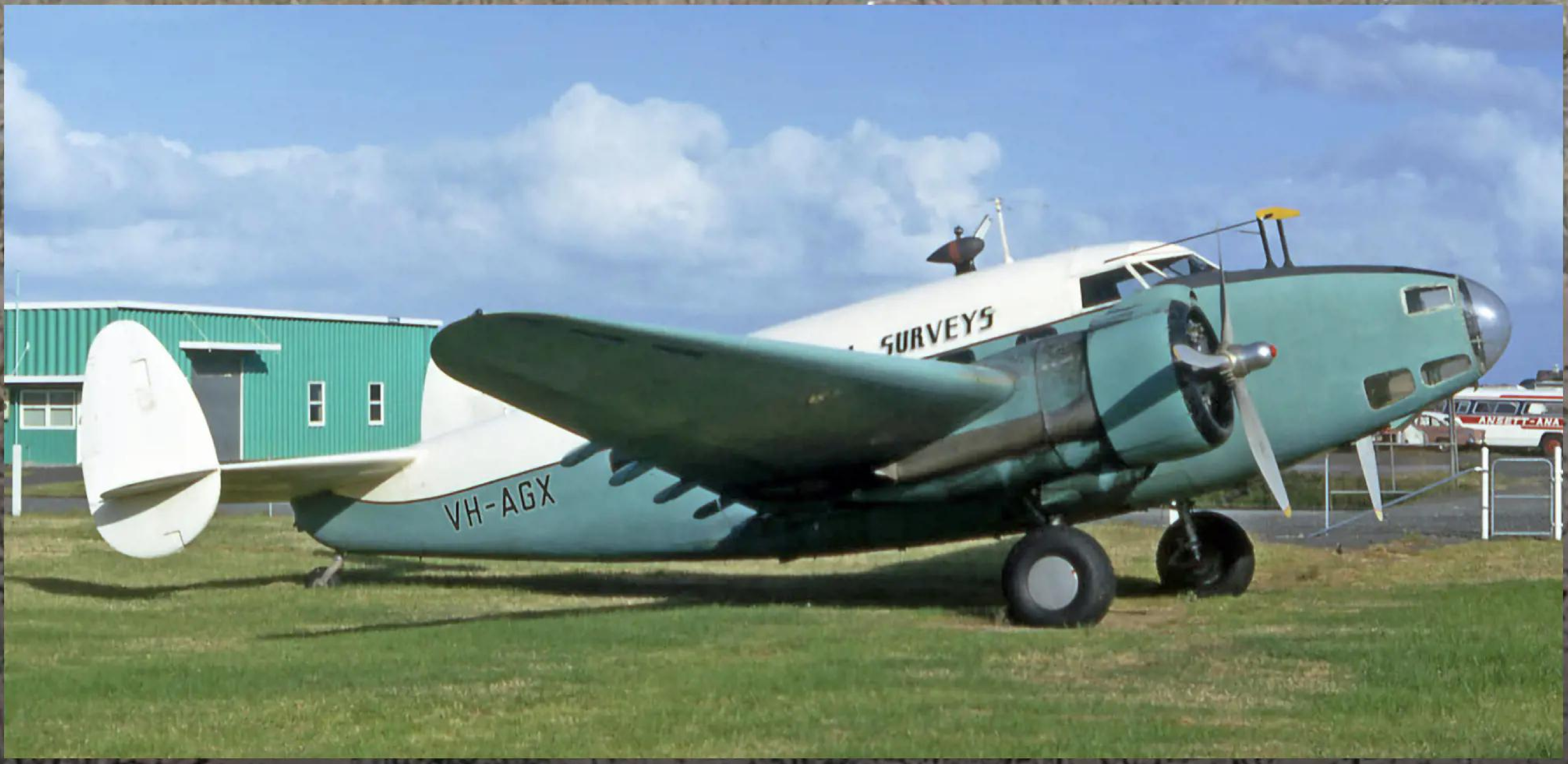
What do you do when the landing gear on a Mustang will not come down during a ferry flight? If you were pilot Lynn Garrison on 27 July 1961, you kept orbiting the small airport at Canastota, New York, to burn off fuel and then bring the former Royal Canadian Air Force fighter in for a perfect belly-landing. Built as P-51D-30-NA USAAF 44-74813, it would be stored at Kelly AFB before being IRANed for the RCAF where it would serve as 9261 before being sold surplus as N6301T. As can be seen, no registration was carried on the Mustang. Repaired, the plane was heavily damaged on 29 July 1978 when it hit another aircraft during a takeoff run at Wittman Field, Oshkosh, Wisconsin. Going through a couple owners, the Mustang arrived at Midwest Aircraft Restorations in Danville, Illinois, where it was broken apart and given a complete rebuilt. It emerged as *Cripes A Mighty* N151BW and is current.



Just what we would like to find at our local airport. This row of surplus Royal Canadian Air Force P-51Ds has simply been parked out in the open to await new owners. These Mustangs had last served with No. 443 Squadron before being stood down in 1956 and each carries the squadron's distinctive logo on the forward fuselage. The planes are all quite weathered from being parked in the open at RCAF Sea Island and RCAF 9593 is missing the tail wheel and seems to have had a problem with that unit since the bottom of the rudder is crushed. Built as USAAF 44-74441, the Mustang only had 949 hours total time when sold in 1959 as N9149R. It went to Trans-Florida Aviation for conversion to a Cavalier 2000. On 20 December 1972, the P-51 was destroyed in a stall/spin accident at Flowery Beach, Georgia, with two fatalities.

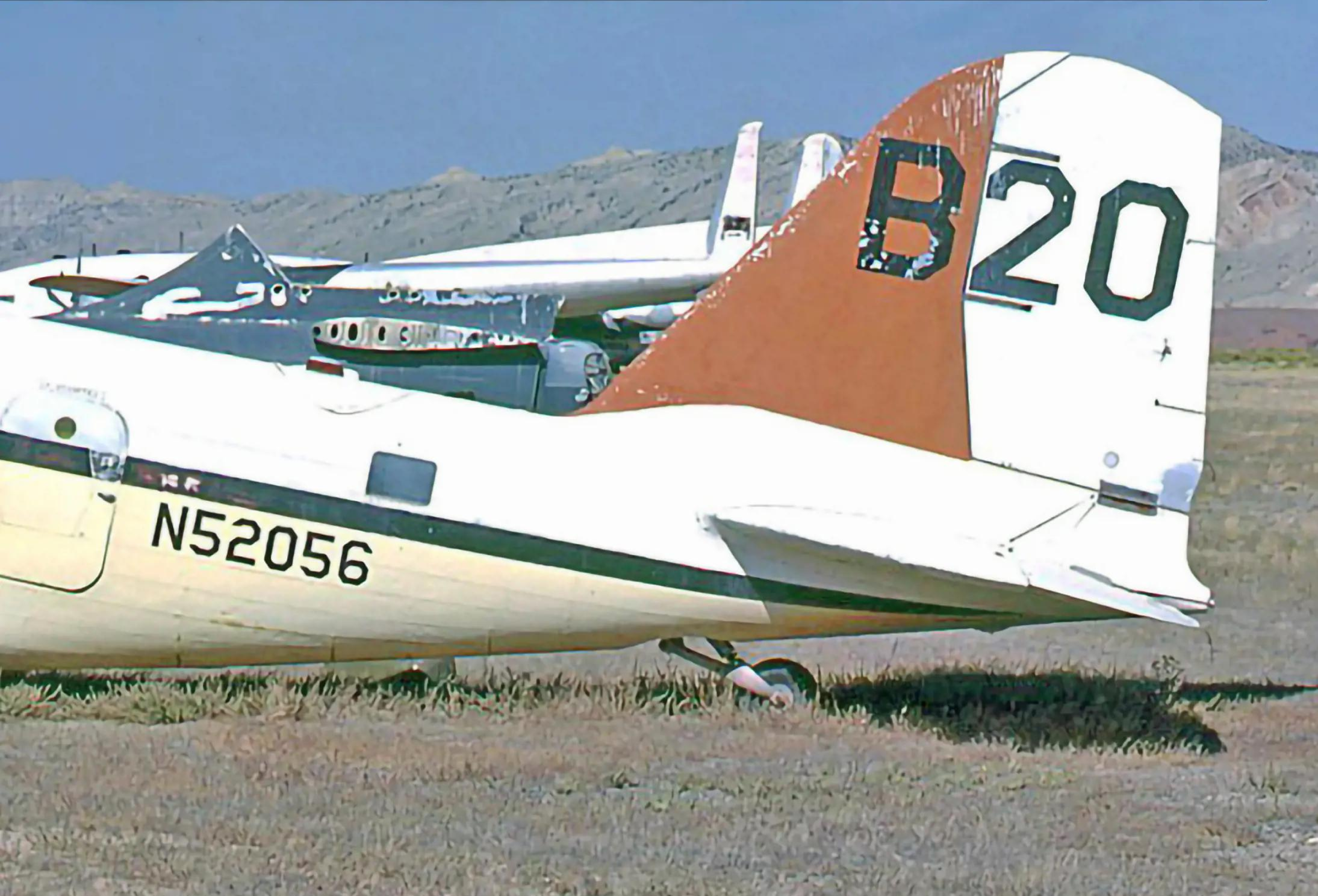
When a few surviving Douglas B-18 Bolos were sold surplus after WWII, there was absolutely no thought given to preserving a single example. The survivors were going to work for a living and that is what they did — hauling freight and contraband, acting as large acreage sprayers, and, in the case of N52056, being flown as a fire-bomber. Built as B-18A USAAC 37-029, the aircraft went through a number of civilian owners until acquired by Mel Christler who converted it into a bug sprayer. It

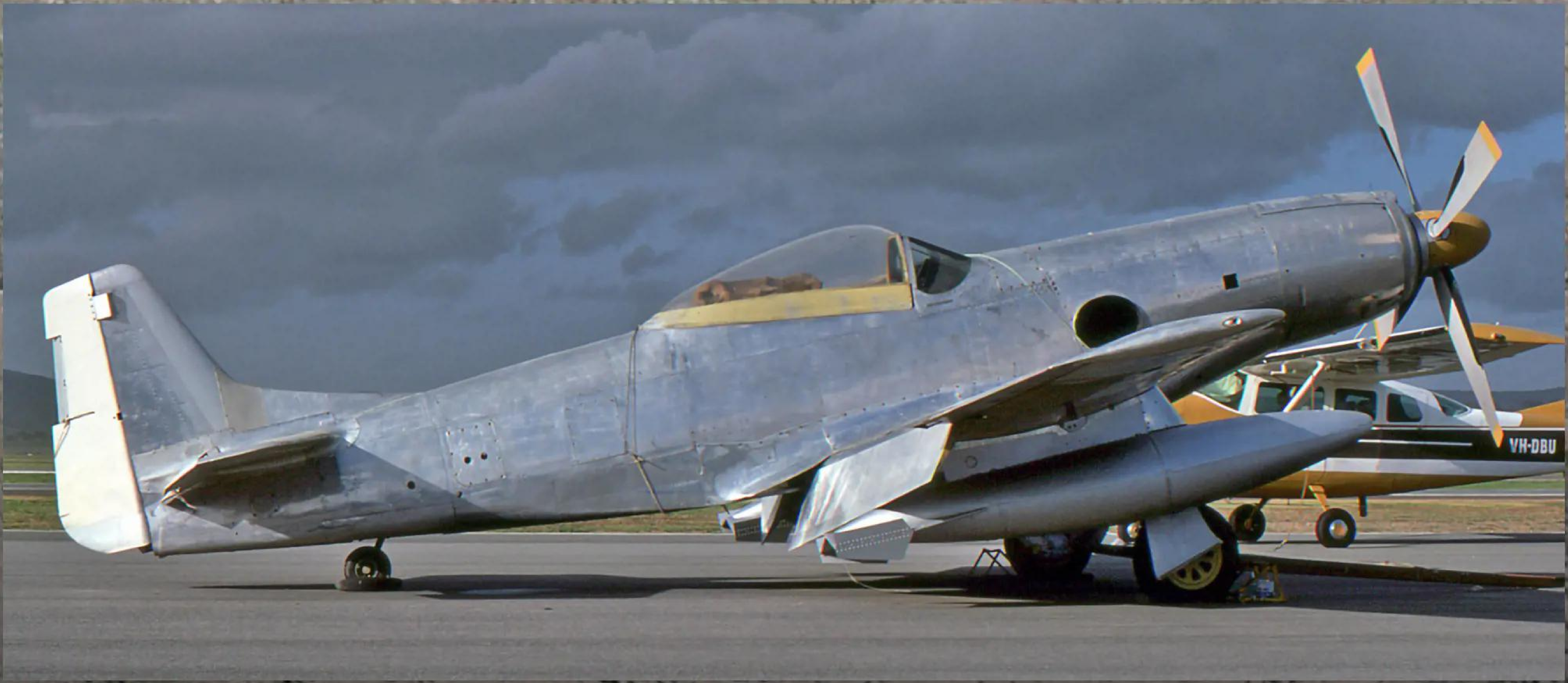




The last Lockheed Hudson still "earning its keep" was this Mk. IIIA (actually built as a Mk. IVA but converted to a Mk. IIIA) registered VH-AGX and flown in Australia by Adastra Aerial Surveys. Photographed at Kingsford Smith International Airport in Sydney, the plane was used extensively for aerial mapping work. Seen during March 1971, the rare Hudson hit a ditch while landing at Horn Island in 1973. The damaged airframe was shipped to the RAF Museum in Hendon where it was rebuilt to static configuration and put on display.

eventually was operated by Hawkins & Powers at Greybull, Wyoming, as Tanker B20. "It was one of the best aircraft I ever flew," recalled Gene Powers. "It would do anything I asked of it. I even landed it on a dirt road going up a steep hillside. It was just a great old plane." After its fire-bomber days were over, the Bolo was parked at Greybull until traded to the USAF Museum. It is now on outside static display at the Castle Air Museum.





Over the years, a lot of strange modifications have been done to Mustang airframes but one of the strangest was this aircraft. Starting out life as Commonwealth Aircraft Corporation CA-18 Mustang 22, the plane served with the Royal Australian Air Force as A68-187 before being offered for disposal in 1958. Purchased by Adastra Aerial Surveys (see the Hudson photo), it was going to be modified for high-altitude mapping but this did not take place. It went through several owners until being purchased by Hockey Treloar who modified the plane with a Rolls-Royce Dart turboprop removed from a Vickers Viscount. Photographed at Canberra, Australia, during March 1977, it was given the appropriate registration VH-UFO but was never completed. Shipped to the USA as N919WJ, the plane went to Square One Aviation where it was rebuilt as a TF-51D for former astronaut Frank Borman. It is now owned and operated by Rod Lewis. **AC**

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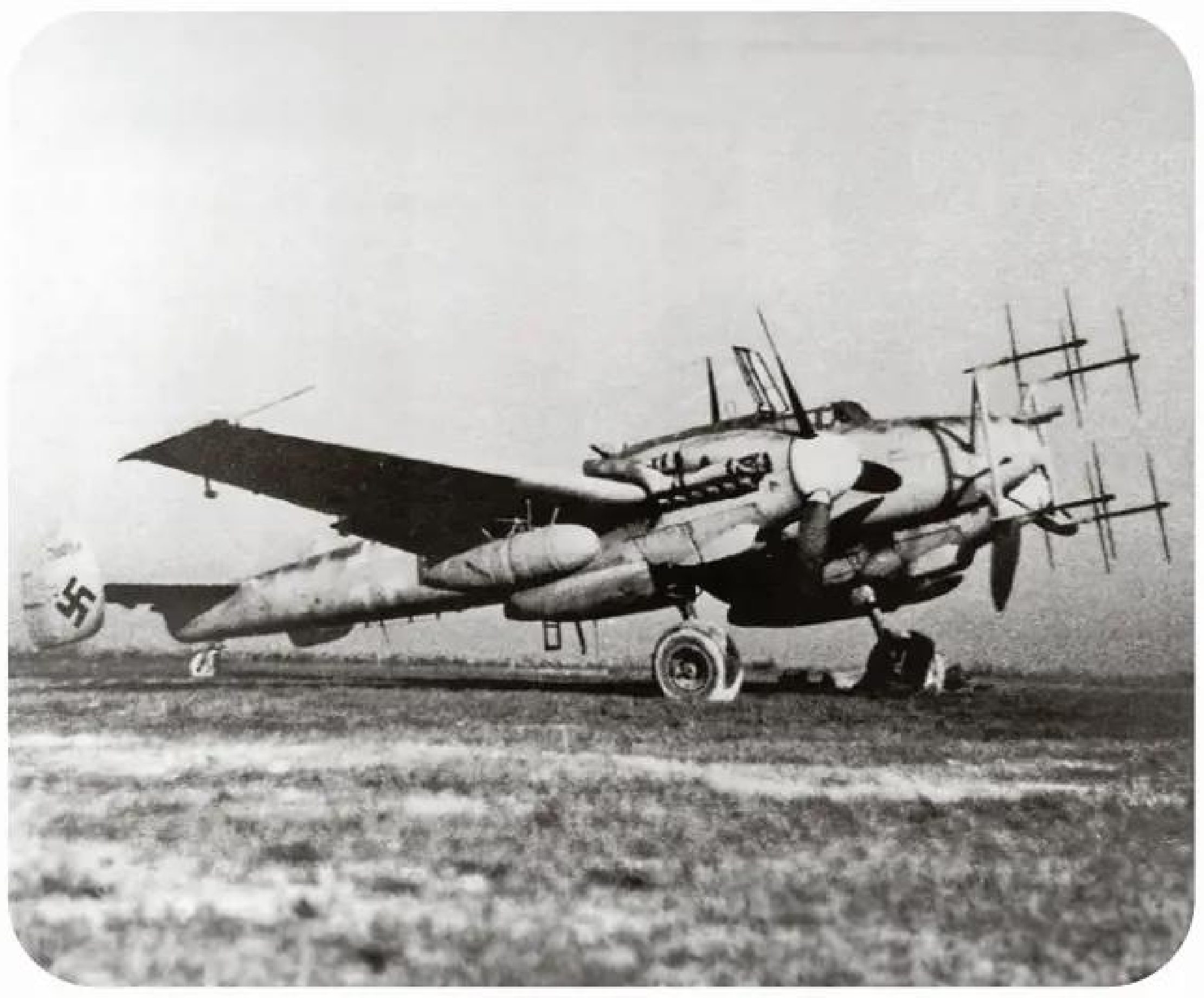

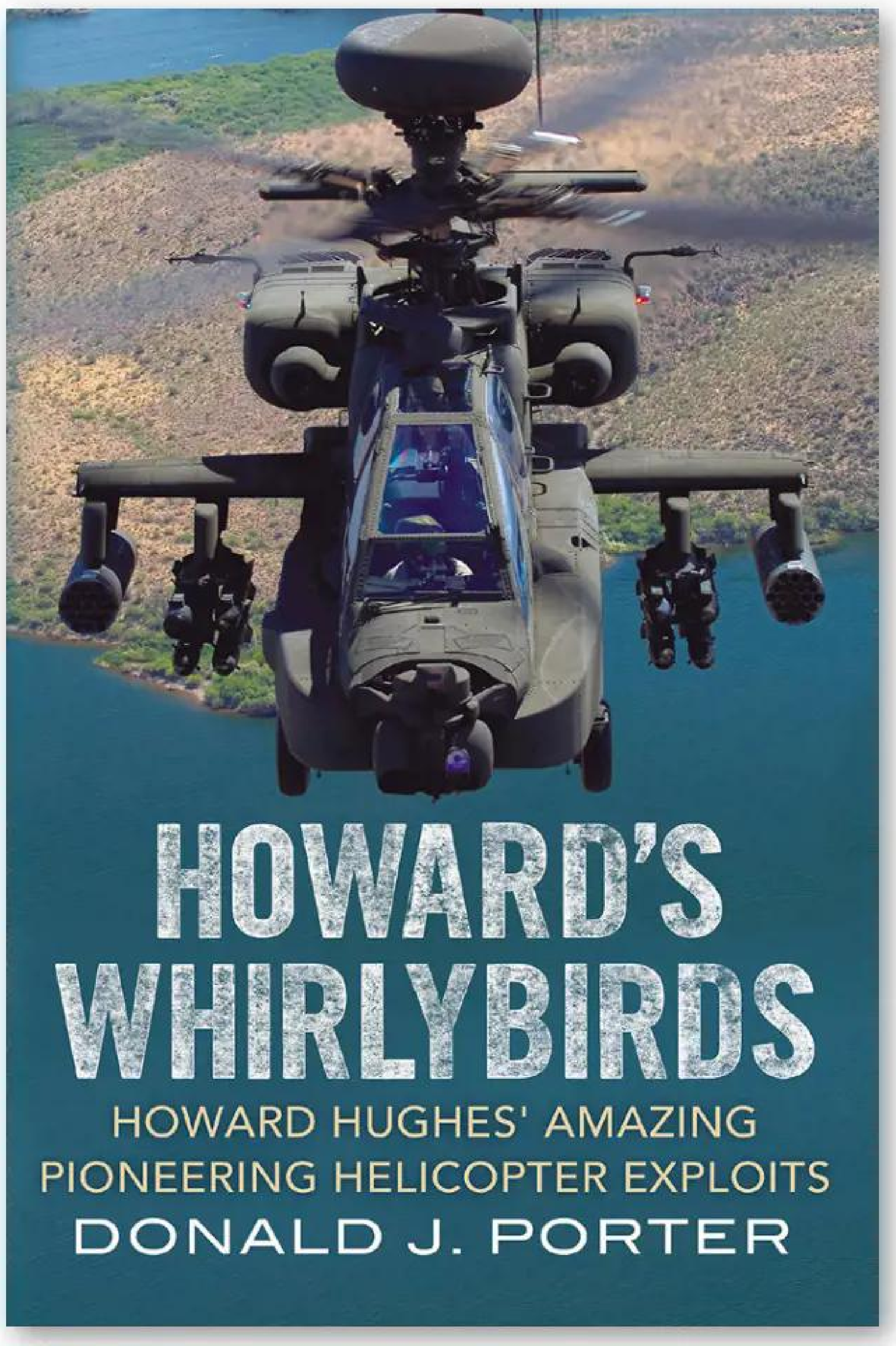
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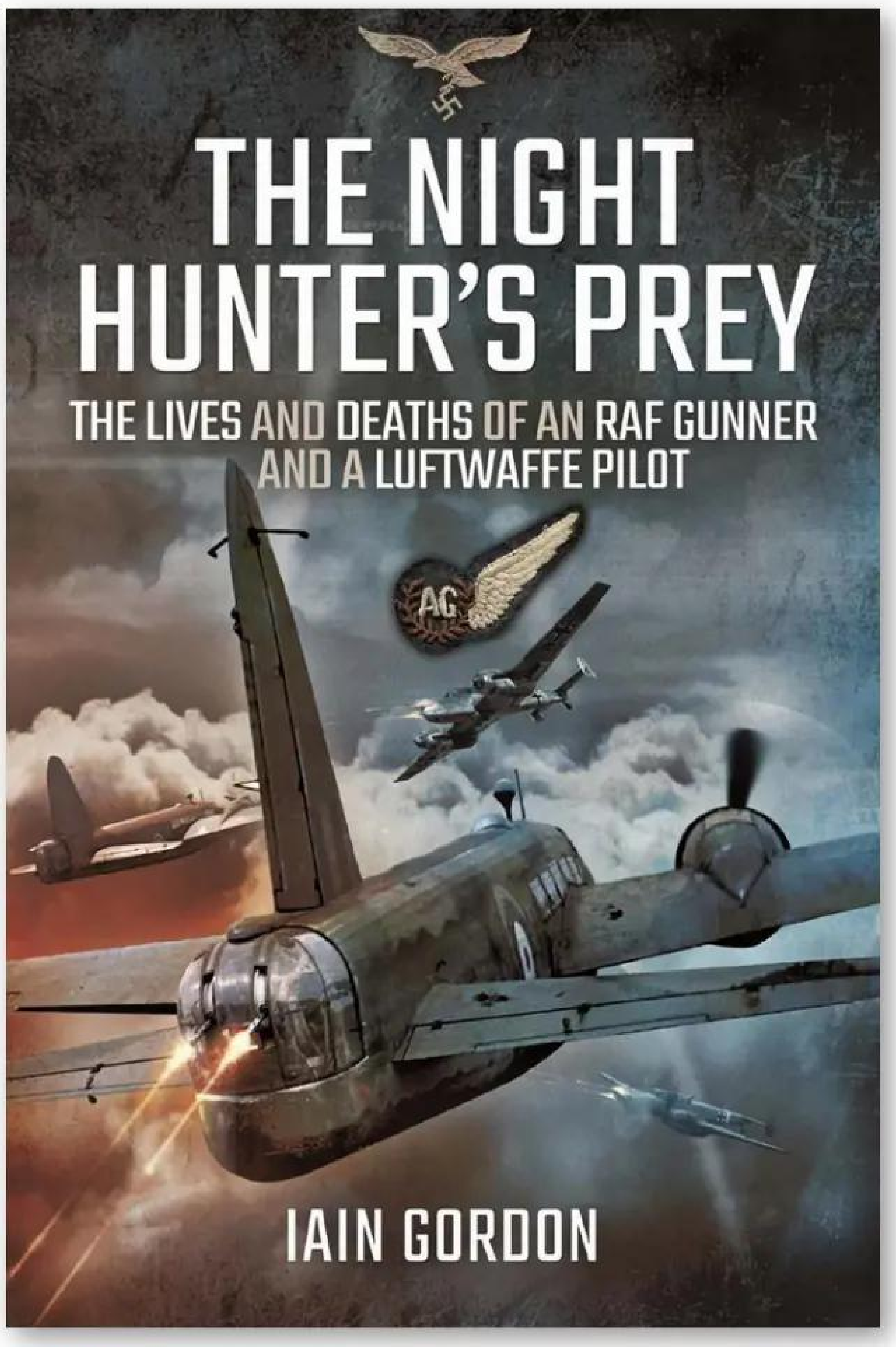
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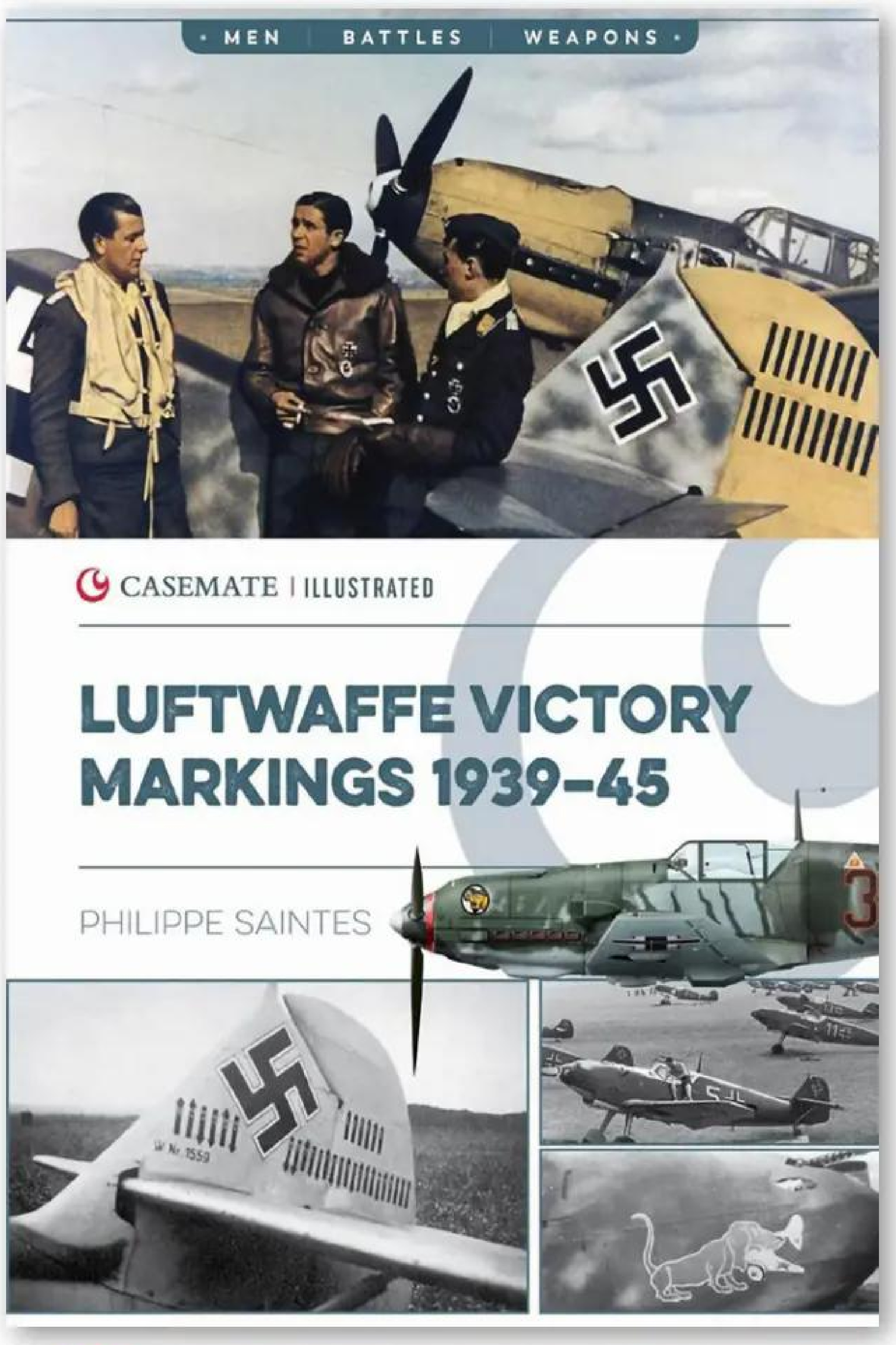
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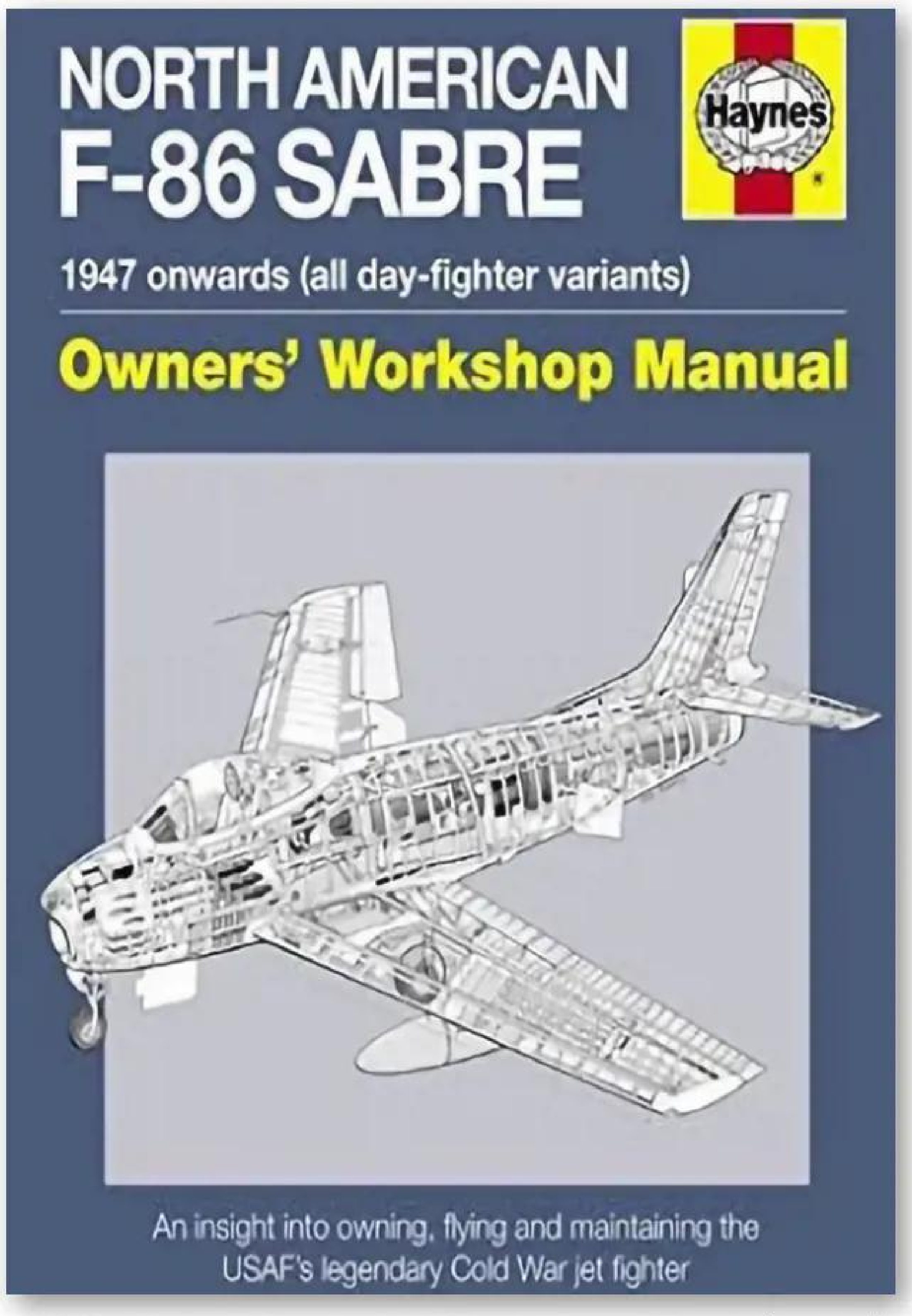
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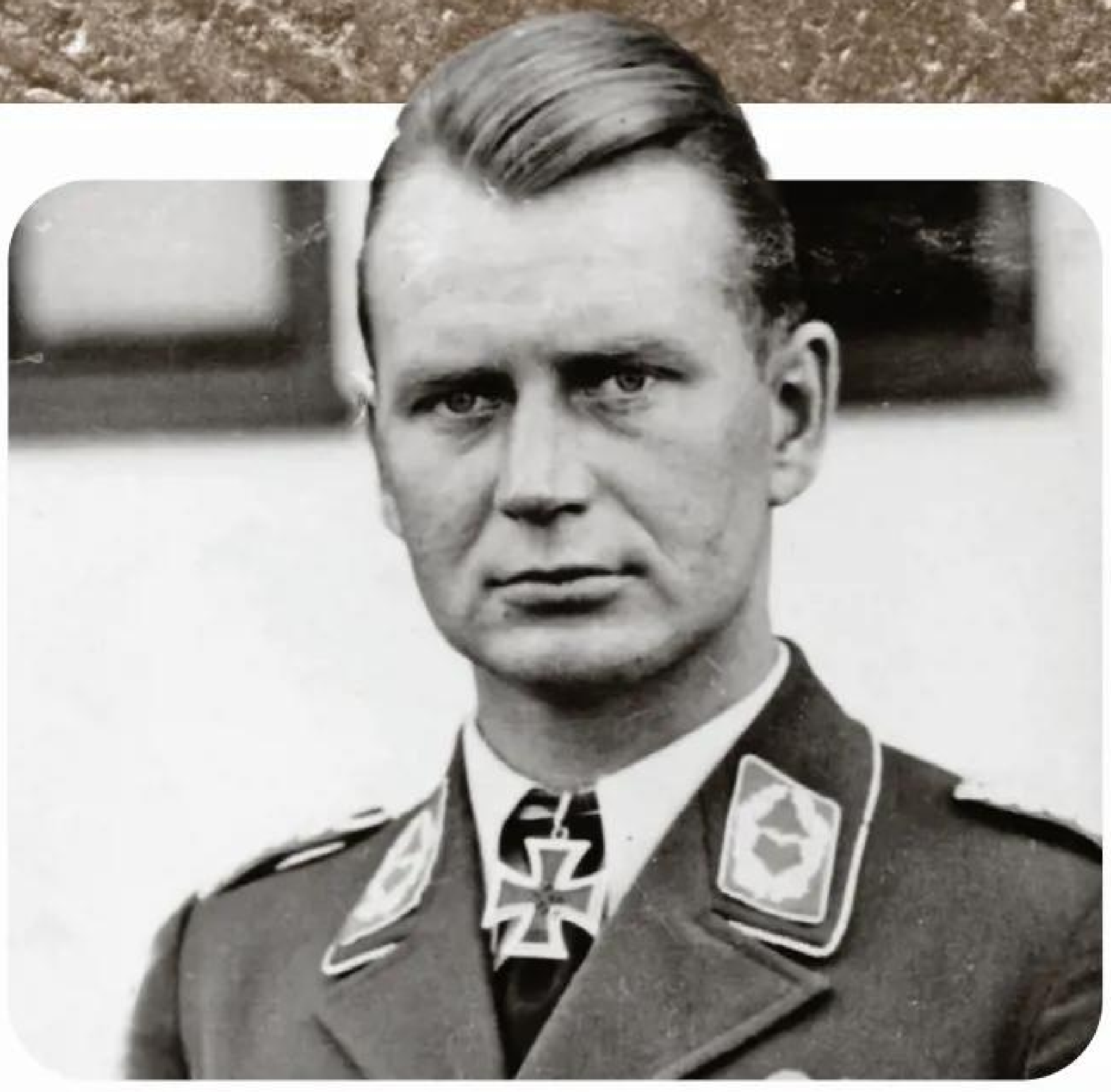

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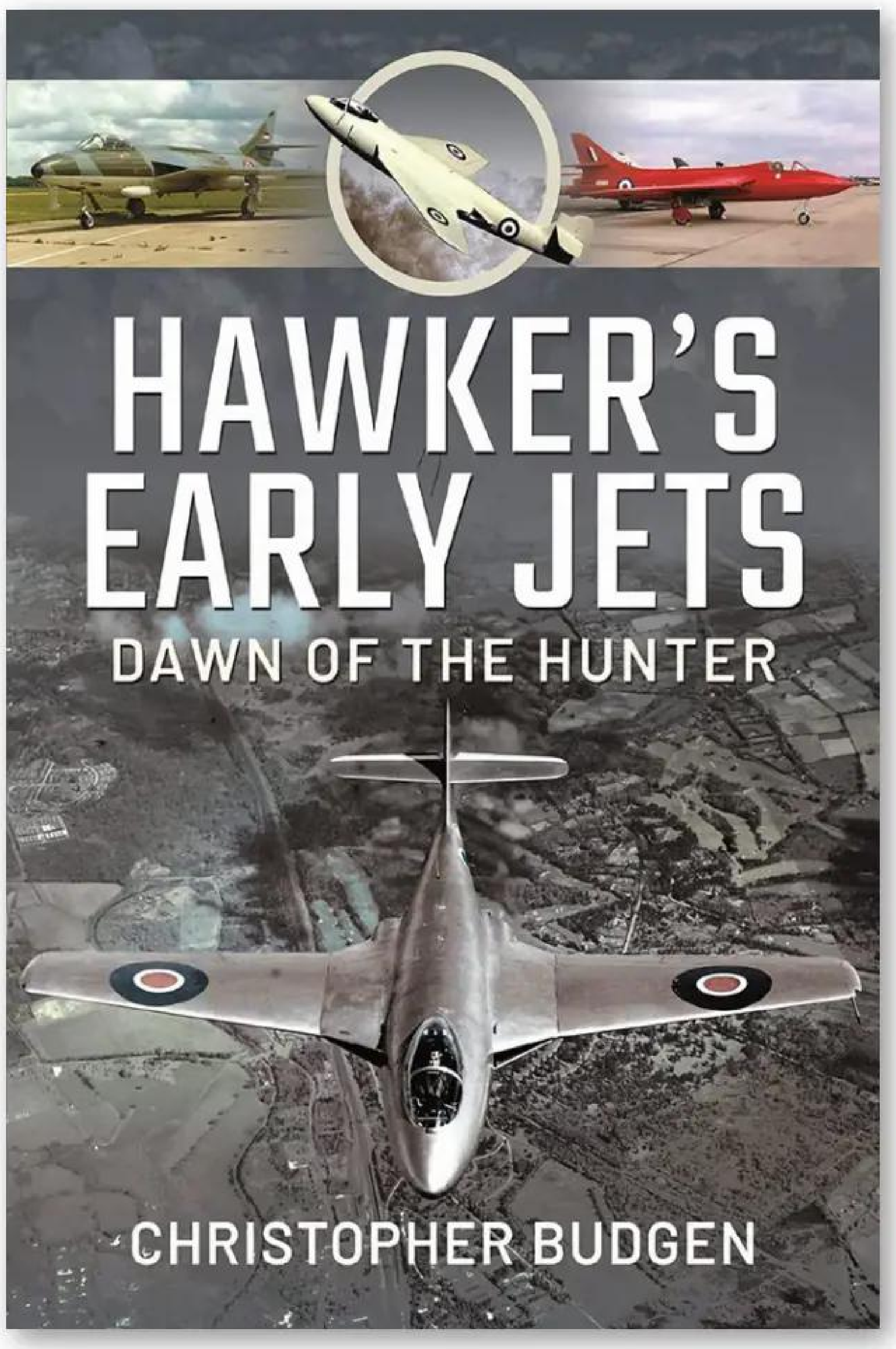
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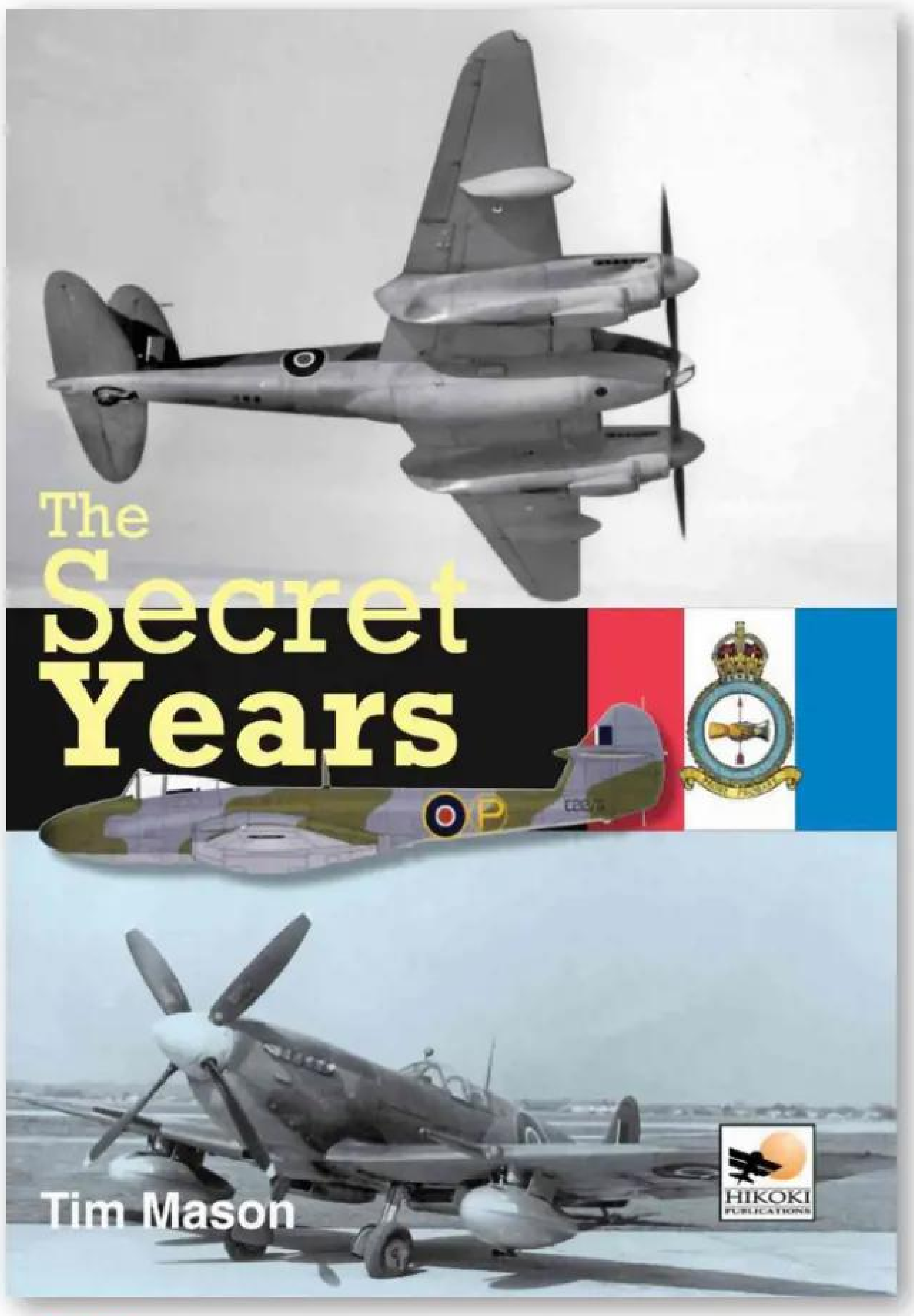
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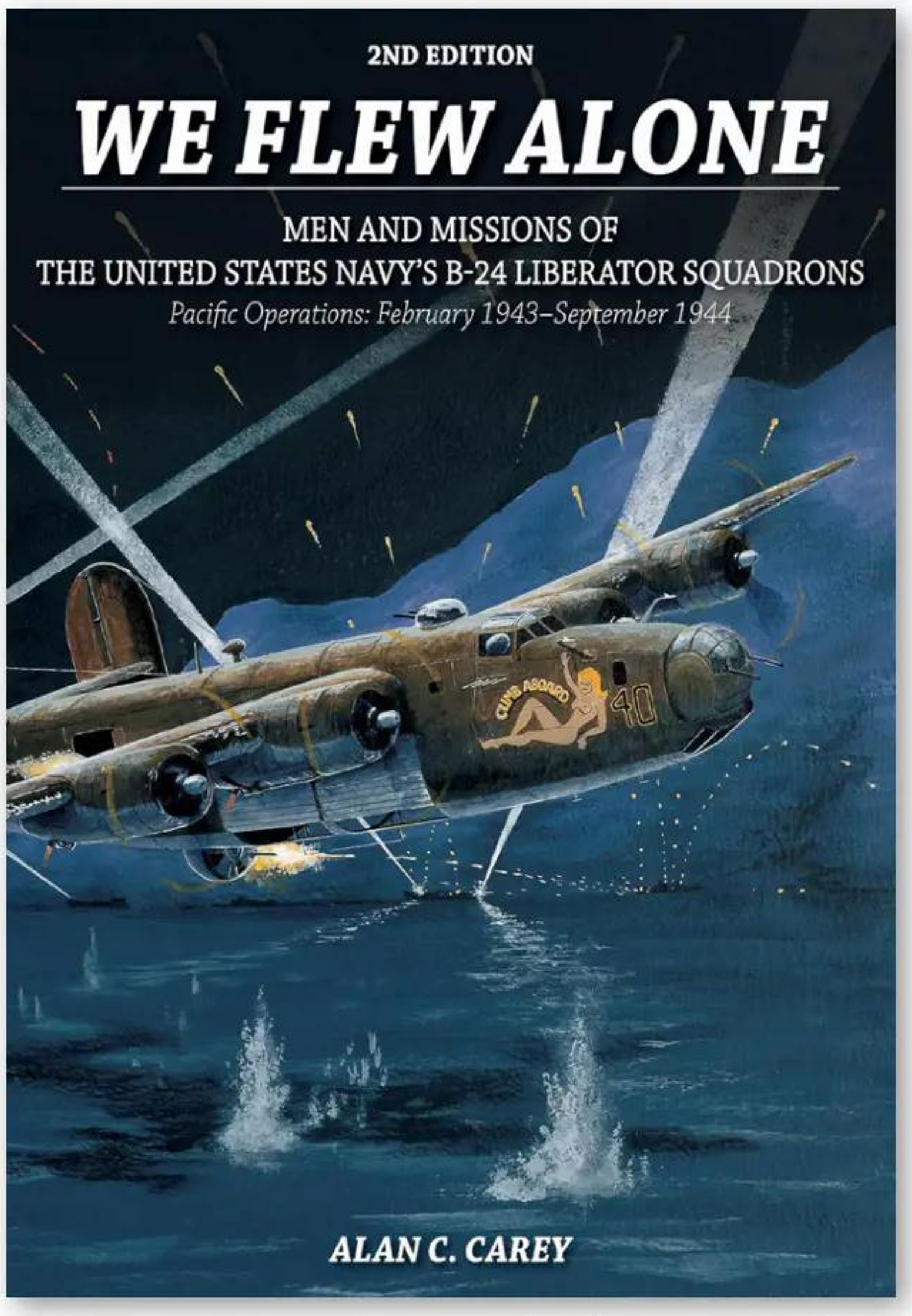
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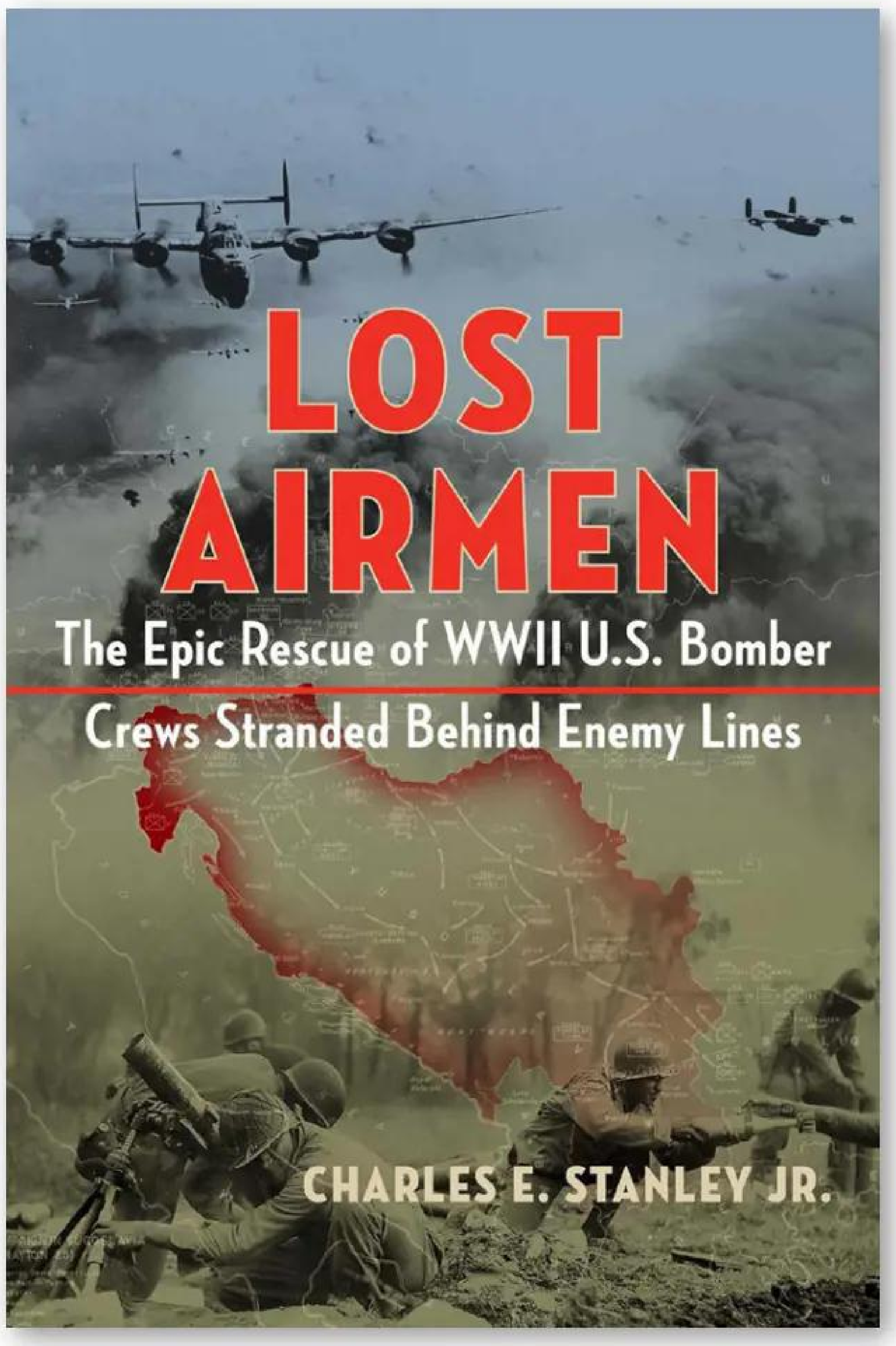
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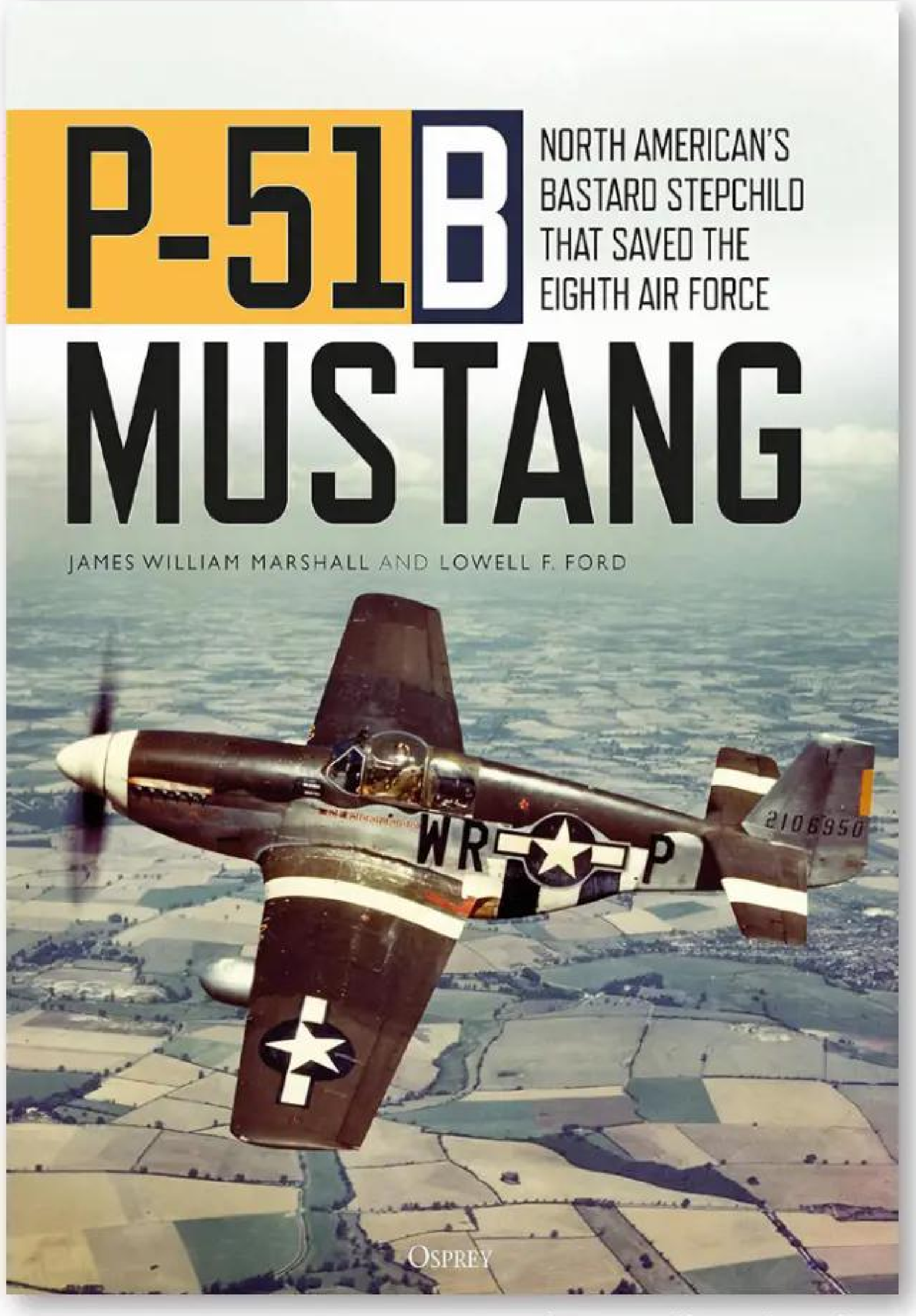
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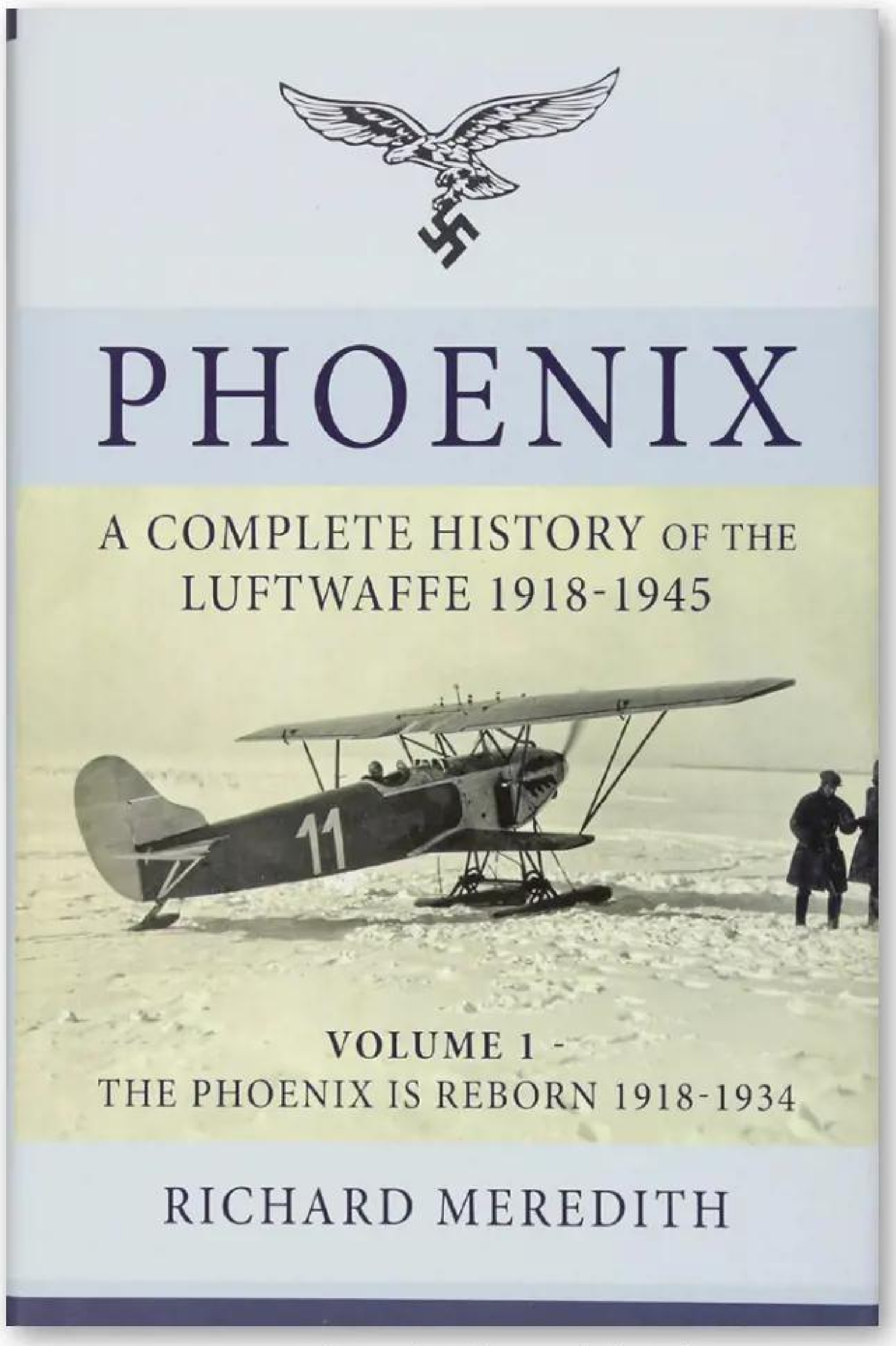
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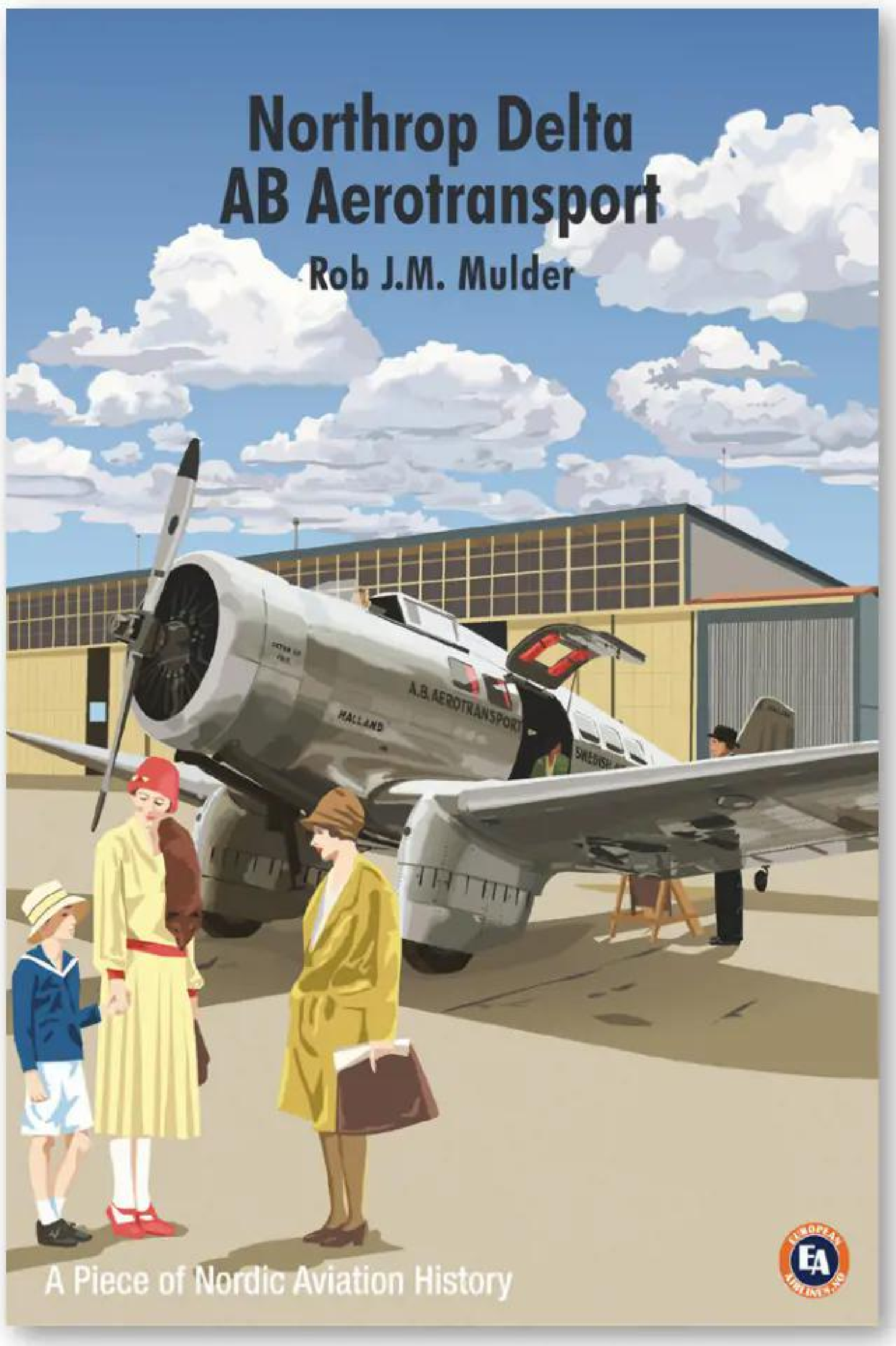
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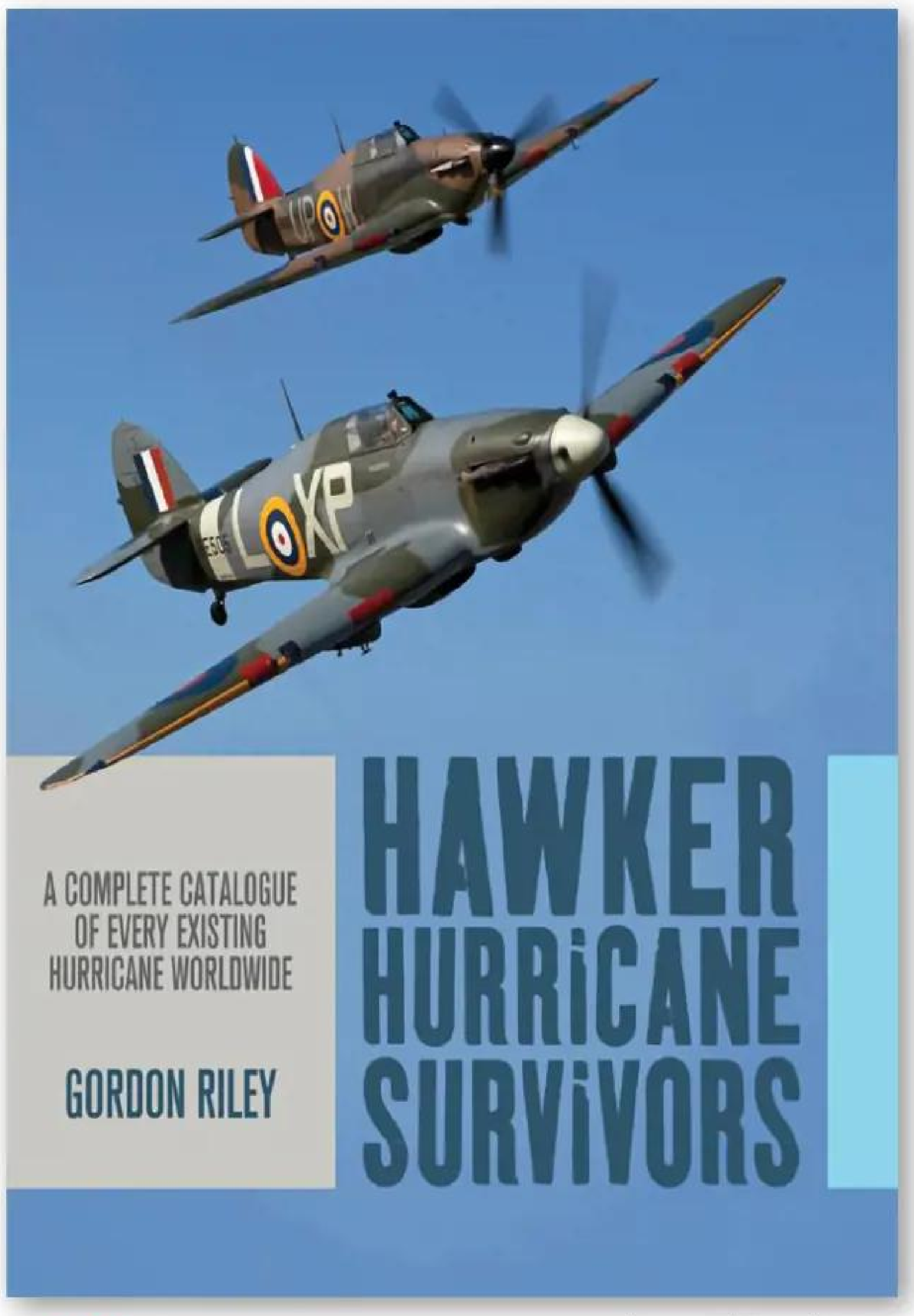
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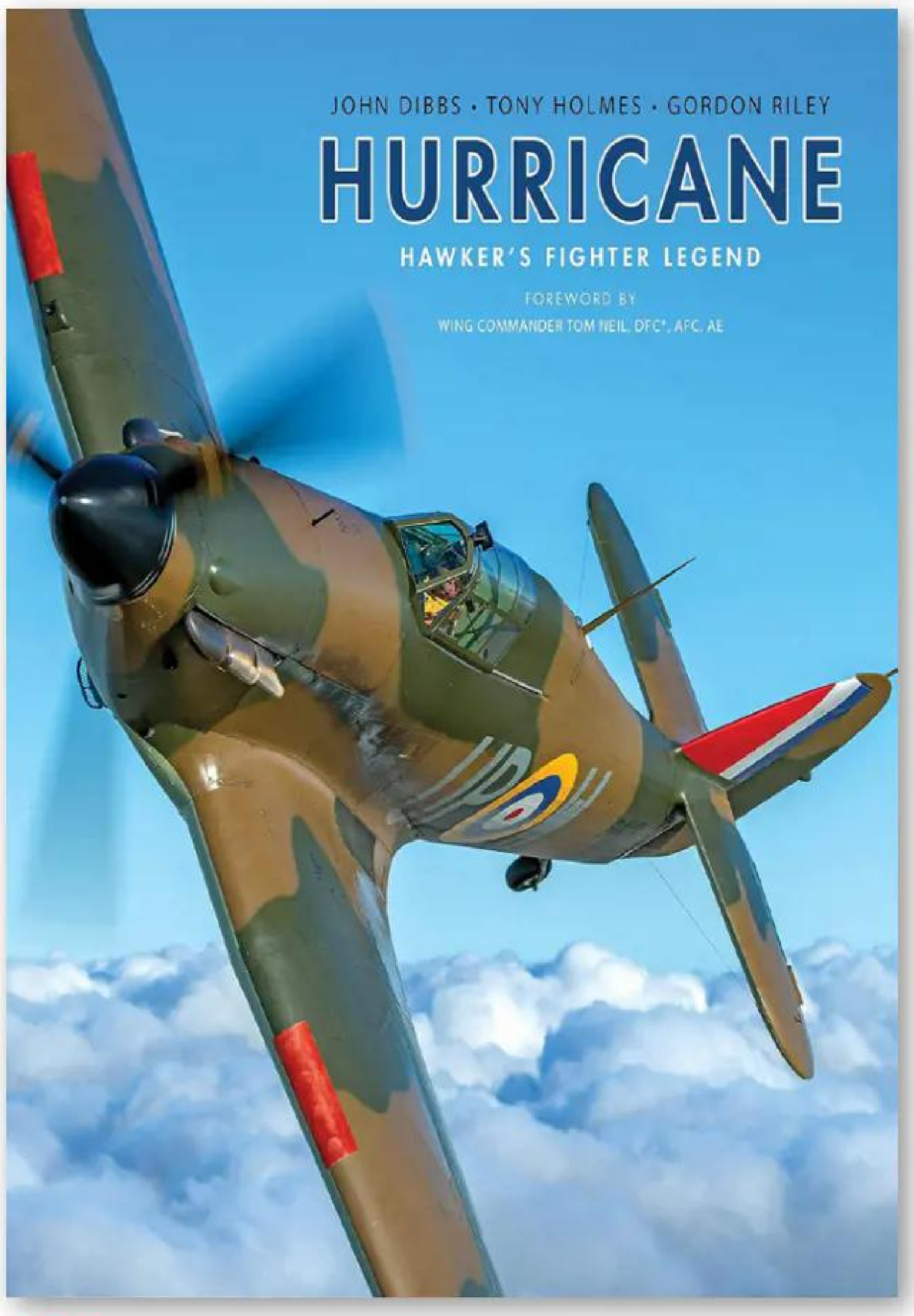
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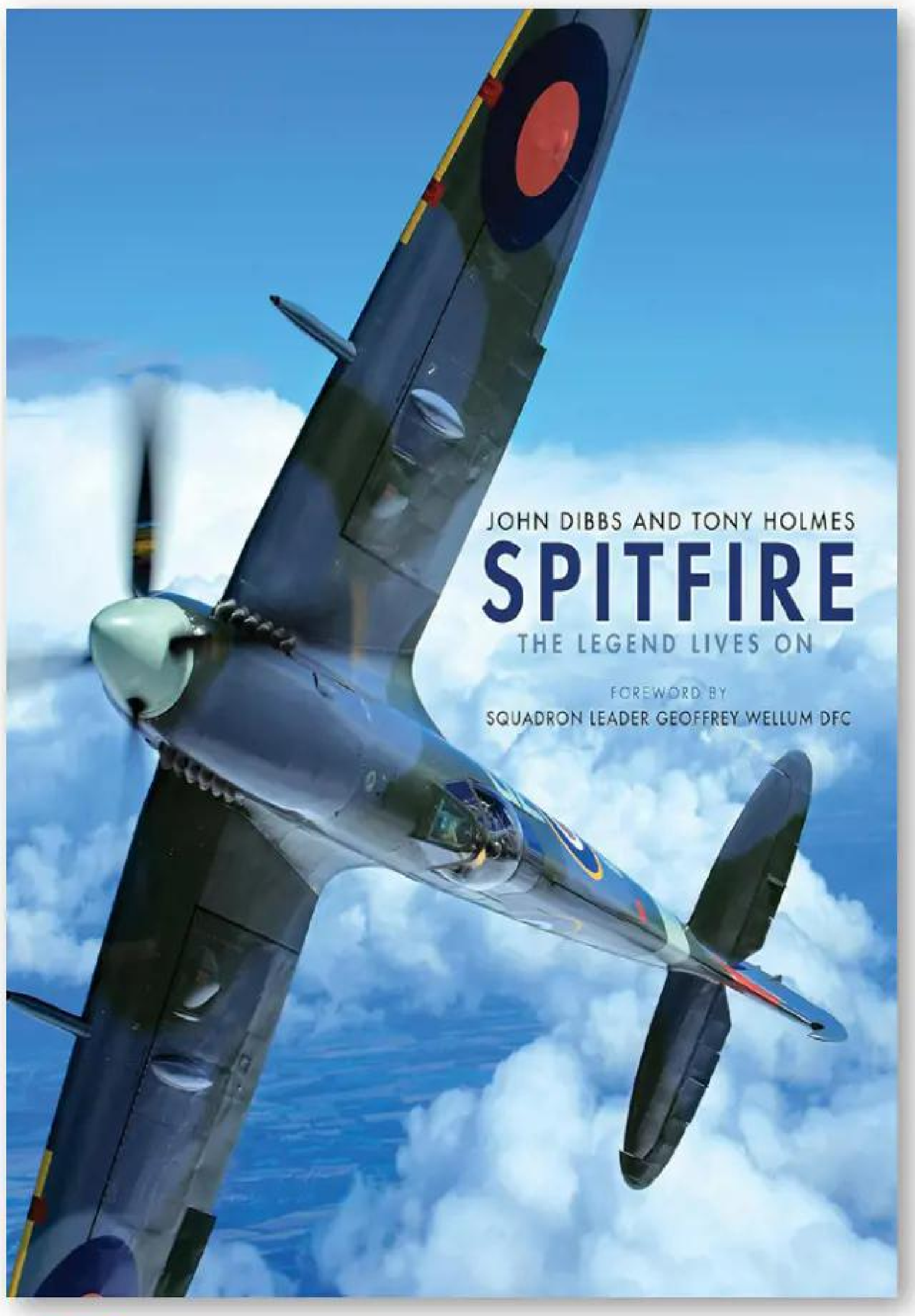
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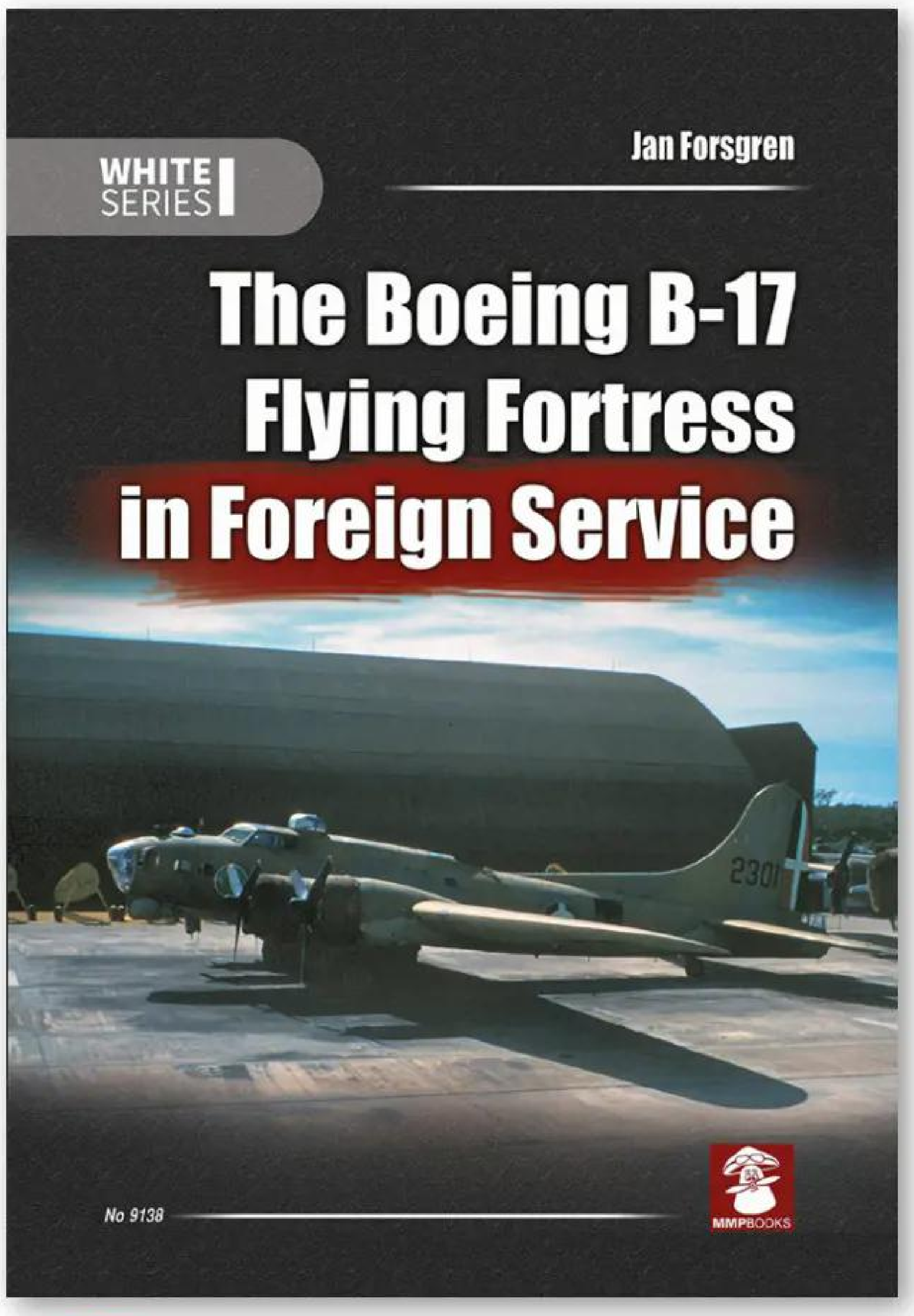
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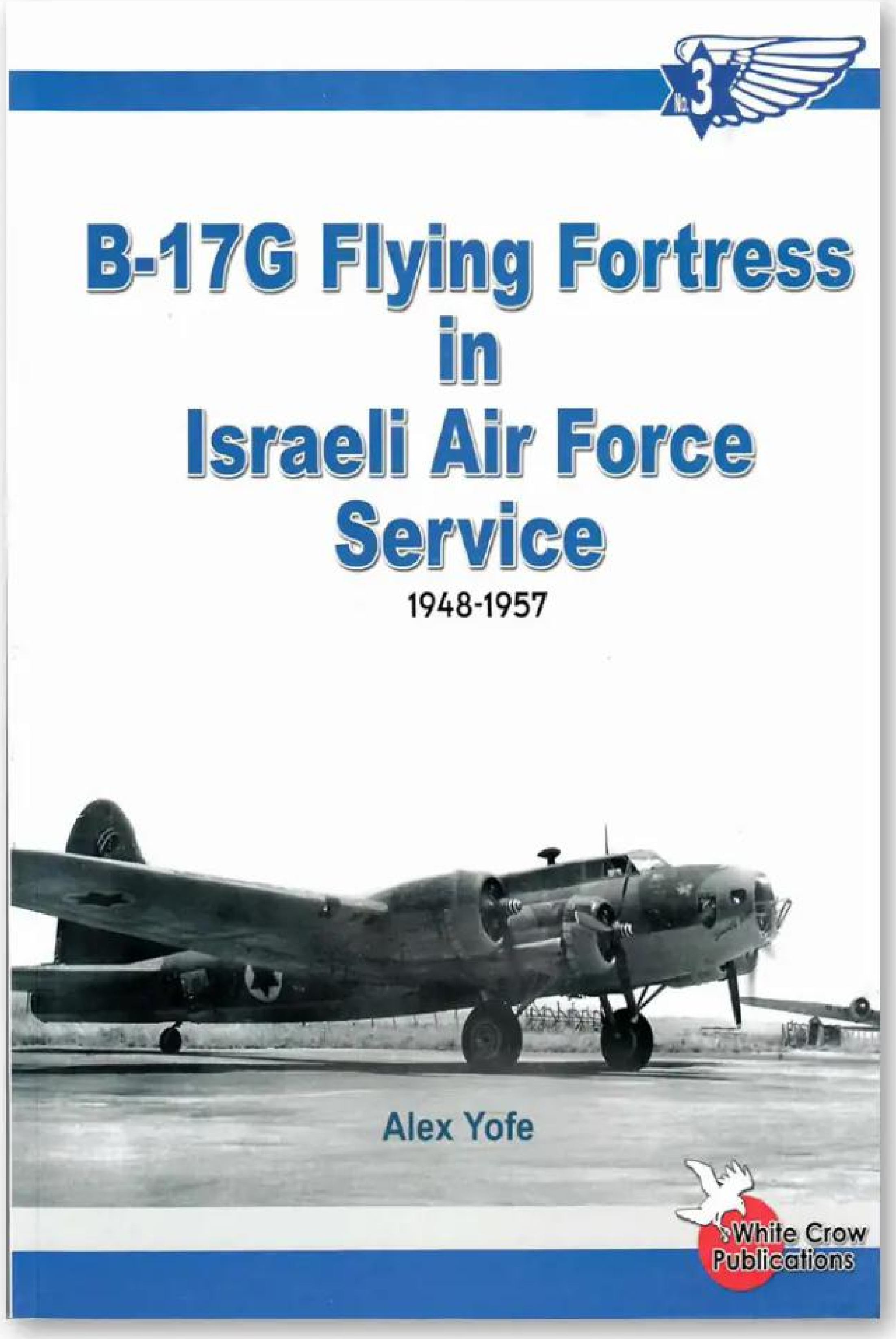
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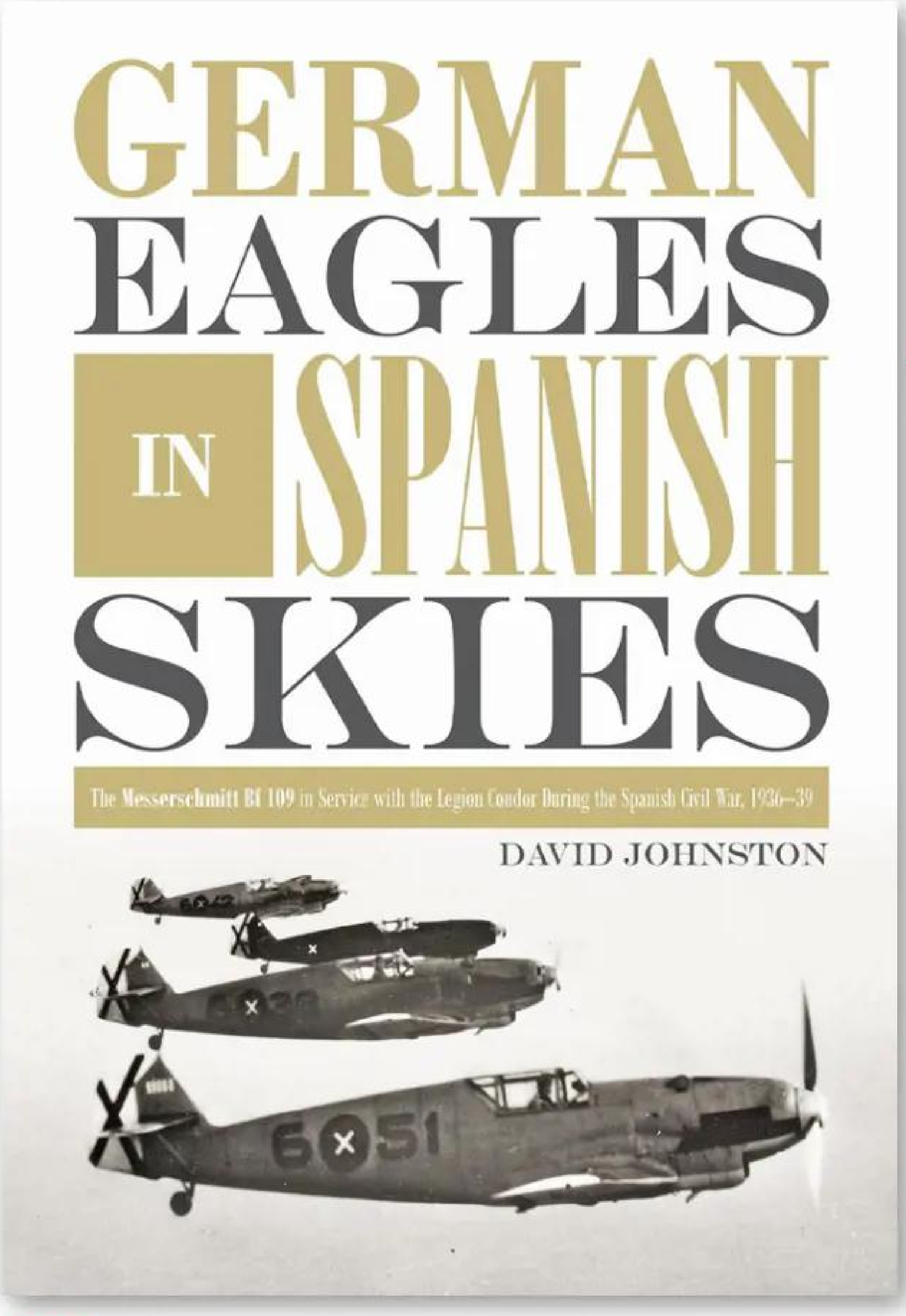
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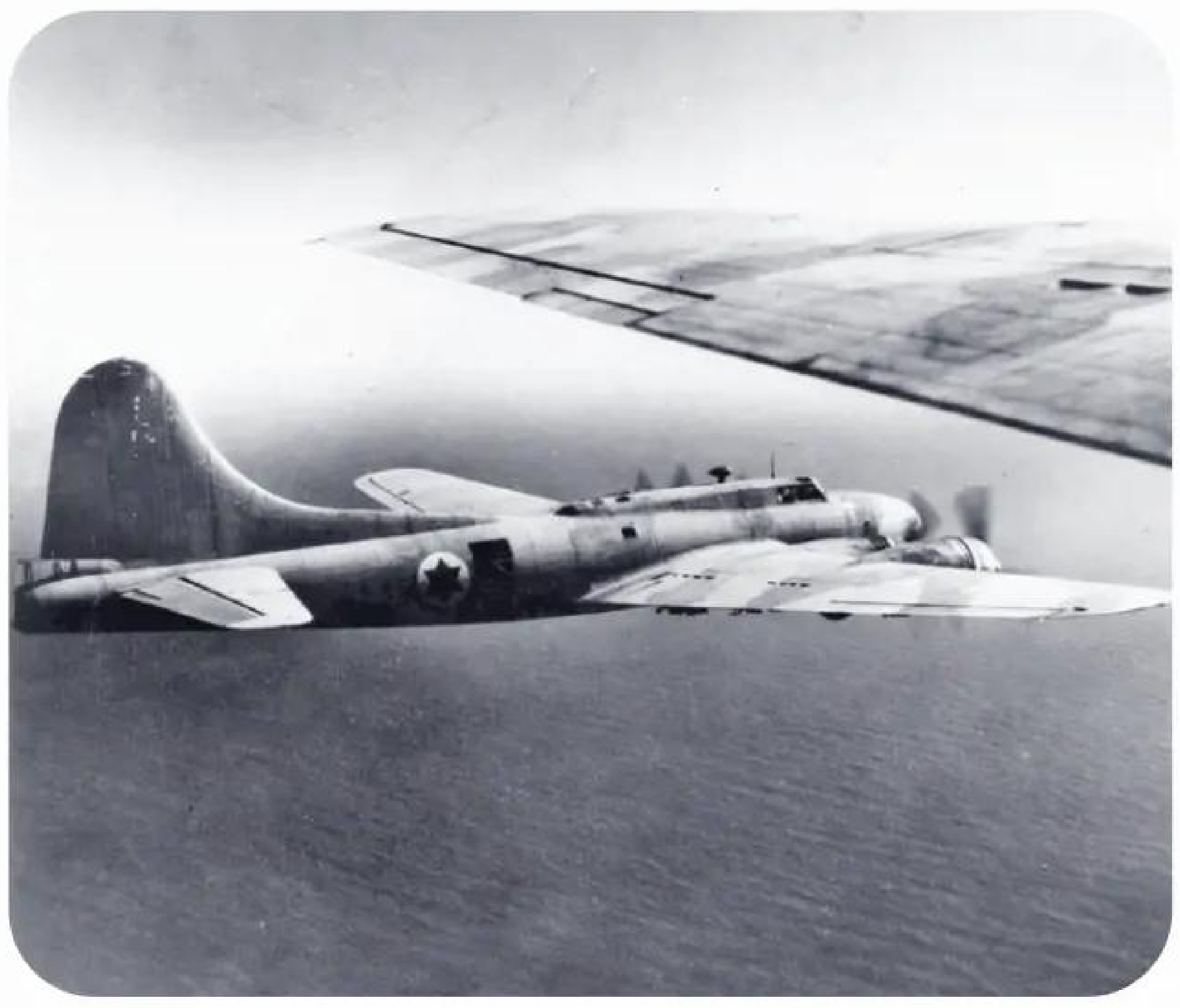

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COLUMBINE II

I receive mailings from a number of WWII-related organizations, most of which I support however modestly (being a retired wage earner). One of those is the Eisenhower Foundation in Abilene, Kansas, which sends out regular mailings featuring Dwight's granddaughter Mary Jean.

Today in the mail, I received a very similar one from Mary Jean except that it was for a new (at least to me) outfit. Address reads as follows: First Air Force One, POB 6206, Merrifield, VA, 22116-6206. It should be noted that Merrifield is home to two or three other WWII organizations.

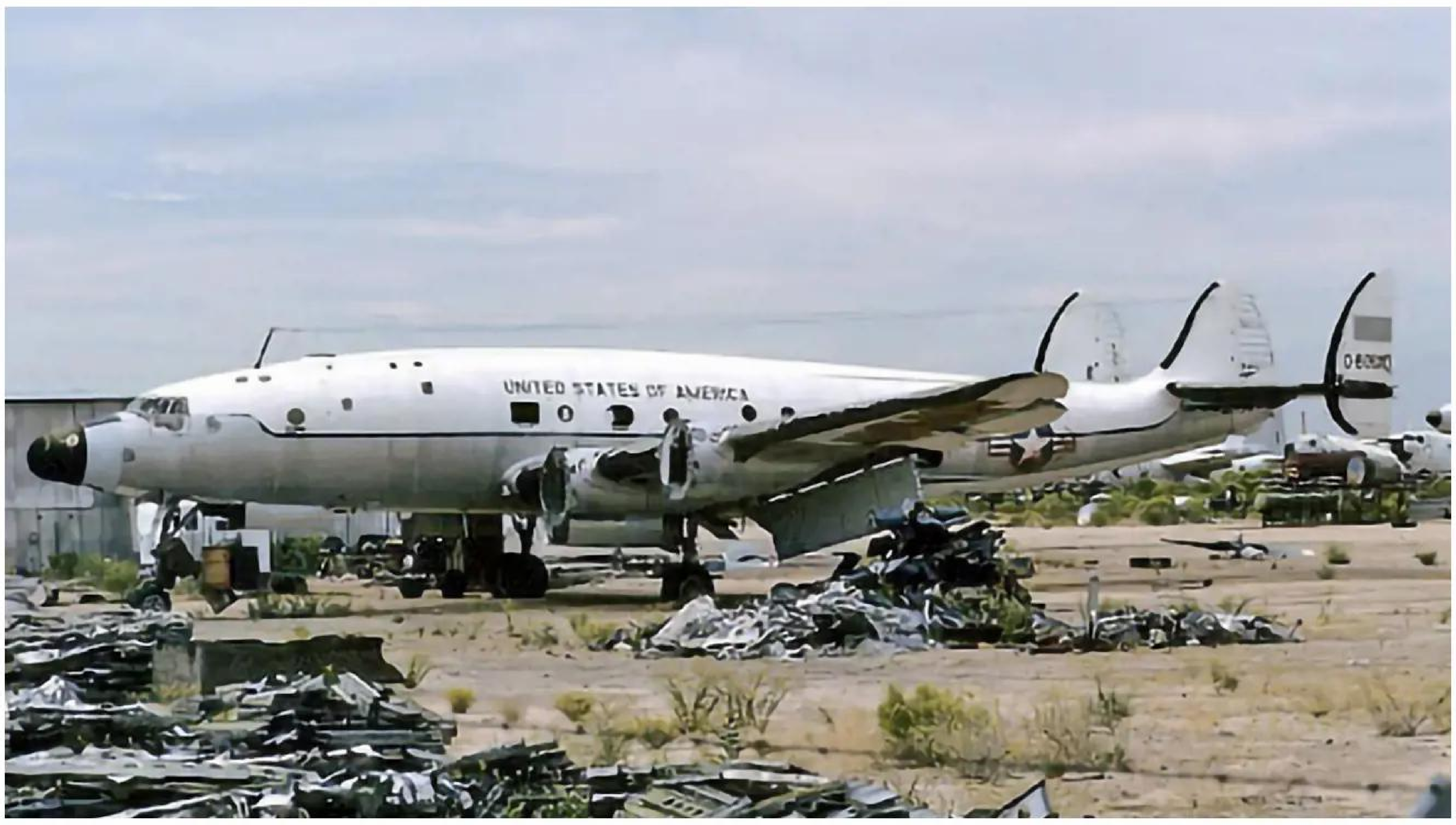
The mailing from First Air Force One was soliciting funds for the restoration of Lockheed Constellation *Columbine II* USAF 48-0610. It contains personal reminiscences from Mary Jean, mostly accurate though with at least a few historical errors. The mailing sounds like the discovery and restoration of *Columbine II*, although I know from reading *Air Classics* that this has been going on for some time.

Question for *Air Classics* to answer: Have you heard of First Air Force One? If so, do you give it the *Air Classics* seal of approval?

On a personal note, a repeated thanks for all that you folks are doing to keep a big chunk of our fragile WWII history alive and accurate. It was my parents' war — along with four of my five uncles, one of whom died at the Battle of the Bulge. The fifth uncle was a bit too young for WWII but served later in the Vietnam War.

Alan Pohl
Everett, WA

EDITOR'S NOTE: Mr. Pohl probably got his February *Air Classics* with the article on *Columbine II* by Ralph M. Pettersen the day after he sent his letter. Yes, this is certainly a legitimate outfit and all donations will go to making the Constellation airworthy.



***Columbine II* when it was in the Tucson scrapyard. It is amazing this aircraft was saved.**

REENACTORS, REALLY?

Well, now you have done it. You may remember I sent you a letter regarding the increase in subscription price for, in my opinion, an already high-priced magazine. Now you have really made me consider my subscription. I am referring to your cover photo for the August 2024 issue. I resent the fact that you have used two reenactors posed against a restored T-6 Texan to create your cover image. To me, this is akin to all the "fake news" that we have to put up with in today's world. One more use of reenactors and I will cancel my subscription.

F.A. Williams
Peru, IN

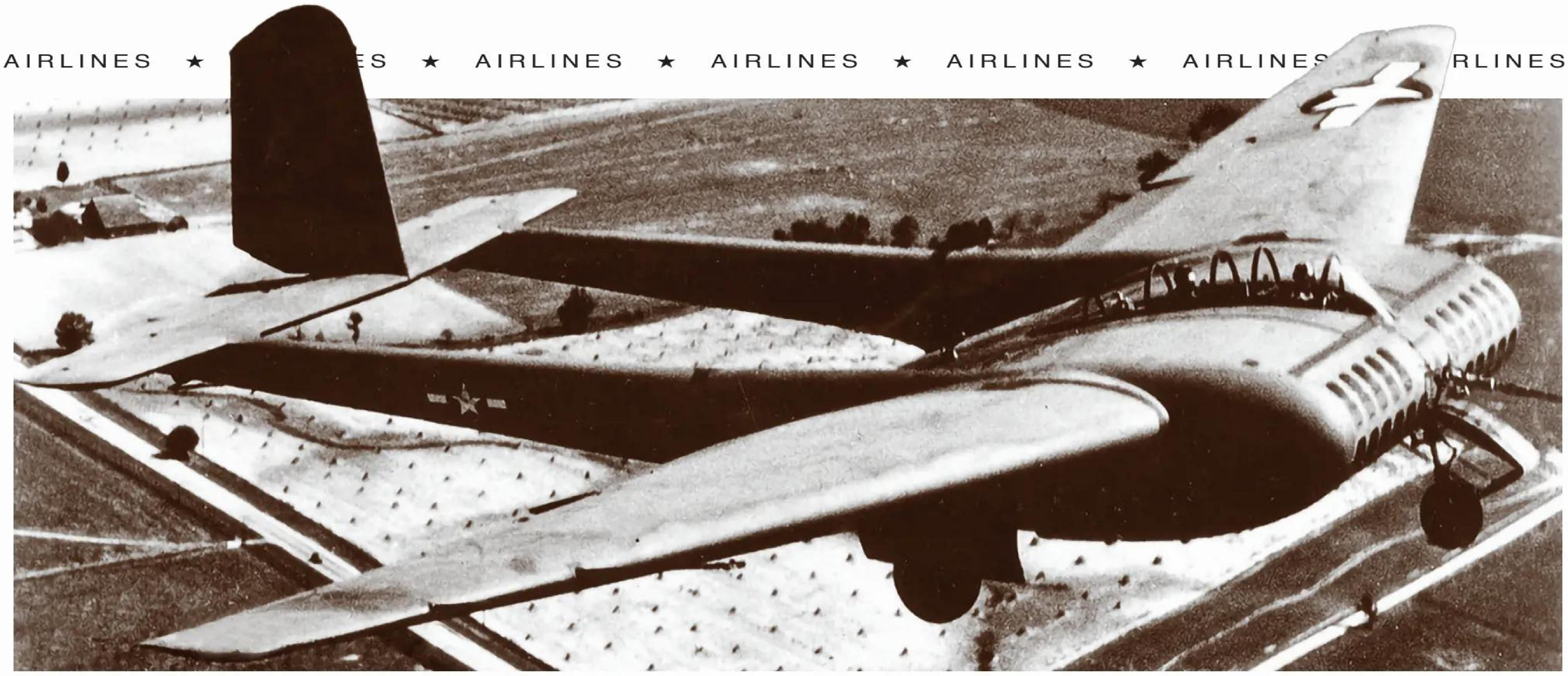
EDITOR'S NOTE: Yes, we well do remember Mr. Williams' letter denouncing us for the rise in subscription prices. However, he is completely incorrect to state that the August cover uses reenactors. At *Air Classics* we go out of our way to present rare and wonderful photos from the history of aviation. This photo was taken in 1942/1943 and, as noted in that issue, shows an instructor pilot and a photographer apparently planning a photo mission (note the aerial camera at the photographer's feet). The "X-607" code on the Texan means it was assigned to Luke Field and that is probably where the photo was taken. So, instead of chastising us about using reenactors, Mr. Williams should be giving some praise to the rarity of this photograph — the color and clarity of the Kodachrome image looks like it was taken yesterday rather than over 80 years ago.

MORE GLIDERS

I just got the February issue and read it cover to cover — another really good issue. What caught my eye was "Transatlantic: By Glider." That is an event I have never heard of and I can't imagine what it would have been like to be tugged across the Atlantic in a steel tube, wood, and fabric Waco CG-4A combat glider. What a miserable experience! Also, it should have been pretty obvious to military planners that this was an idea that would never have worked but, then again, they had a lot of lives and aircraft to play with. The use of the glider during WWII is fascinating and I would like to cast my vote for some more stories on the gliders themselves and the men that flew them. Do you think there is enough material and interest for such stories?

Robert Freeman
Ft. Worth, TX

EDITOR'S NOTE: Gliders certainly made up an interesting component of the overall war effort and the men that flew them (and flew in them) were a



One of the stranger WWII gliders was the massive General Airborne Transport XCG-16. Let us know if you want stories on such aircraft.

brave group — one certainly deserving more examination in *Air Classics*. The war saw a variety of experimental combat gliders designed and constructed, most of them being death traps. If readers express an interest in the WWII combat gliders, we can certainly run stories on them. However, most of the veterans that flew the gliders are now sadly gone and it would have been great to obtain some first-hand accounts of flying these machines.

PROTOTYPES

Enjoyed the January issue — especially the new feature "Prototypes." I must admit I knew nothing about the Stearman Model 70 prior to this fine article. I am going to look forward to more installments of "Prototypes" and would like to know if you are going to feature a variety of military and civilian aircraft. Also, will you be doing articles on prototypes of more famous aircraft that saw thousands of production models built?

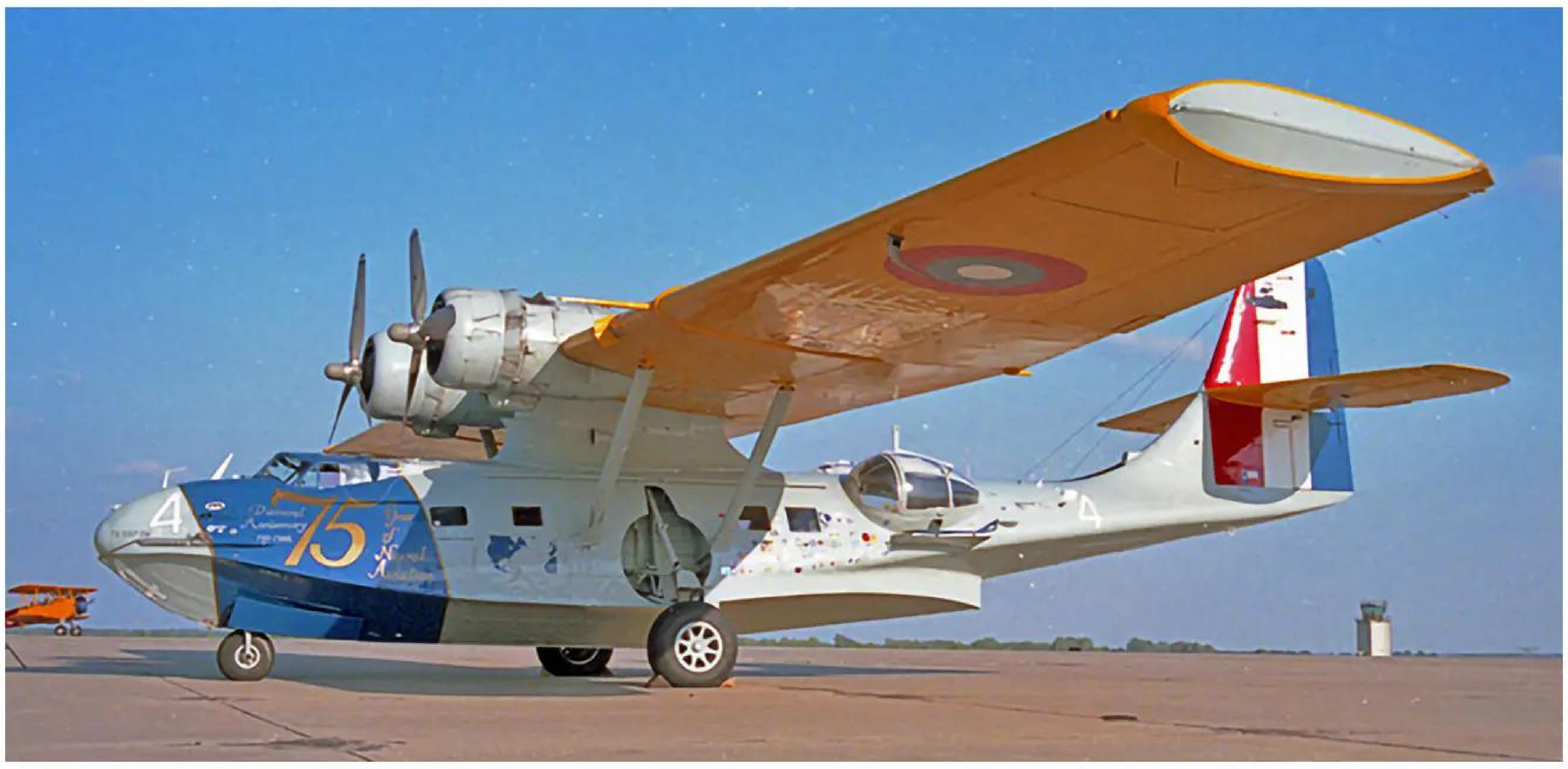
Tom Weston
Rome, NY

EDITOR'S NOTE: Our new series will be featuring military and civilian prototype aircraft — as can be seen in the article on the McDonnell Model 119A/220 featured in this issue. And yes, we will also be featuring stories on the prototypes that led to series production of thousands of aircraft. These prototypes were often very different than the production machines and form an intriguing look at how aircraft types were developed.

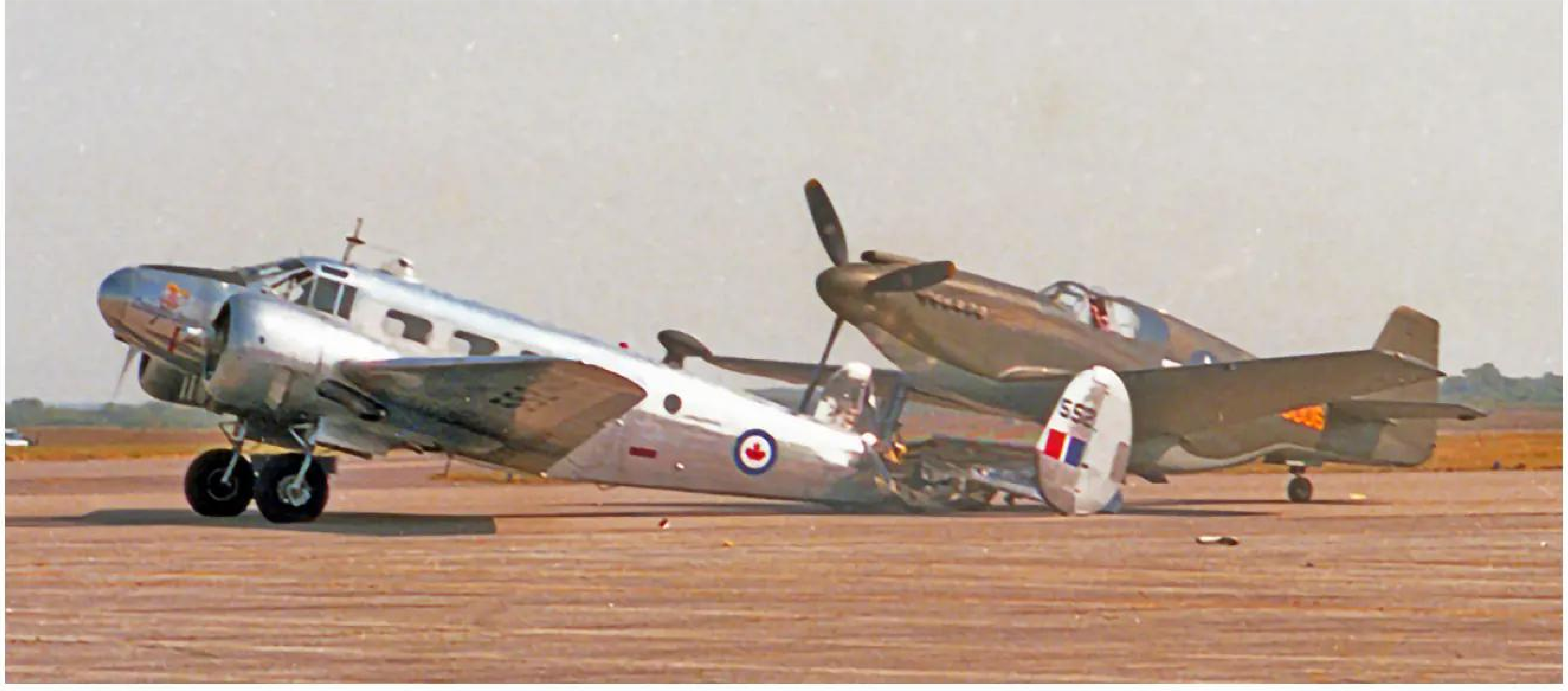
CATALINA MEMORIES

Great story about how Yanks Air Museum dismantled the Catalina in the January issue. The plane will have a better home and a brighter future. The article got me searching for the negatives of my one and only Cat encounter. That was at the Superbatics airshow held at Forbes Field in Topeka, Kansas, during 1987. Connie Edwards brought in his magnificent PBY-6A Catalina N4NC in which he had done a transatlantic crossing to commemorate the historic flight of the US Navy's Curtiss NC-4 flying boat. While looking for those negatives, I also found an unfortunate P-51A Mustang/Beech C-45 "interface" and have included a shot of that incident.

Kevin Lundy
Wilson, KS



Connie Edwards beautiful PBY-6A Catalina at Forbes Field in 1987.



The C-45 needed a new tail and rear fuselage and the Mustang was certainly in line for an Allison overhaul.

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The MAM Catalina heading for takeoff.

Canadian Warplane Heritage Catalina/Canso arriving at Geneseo.

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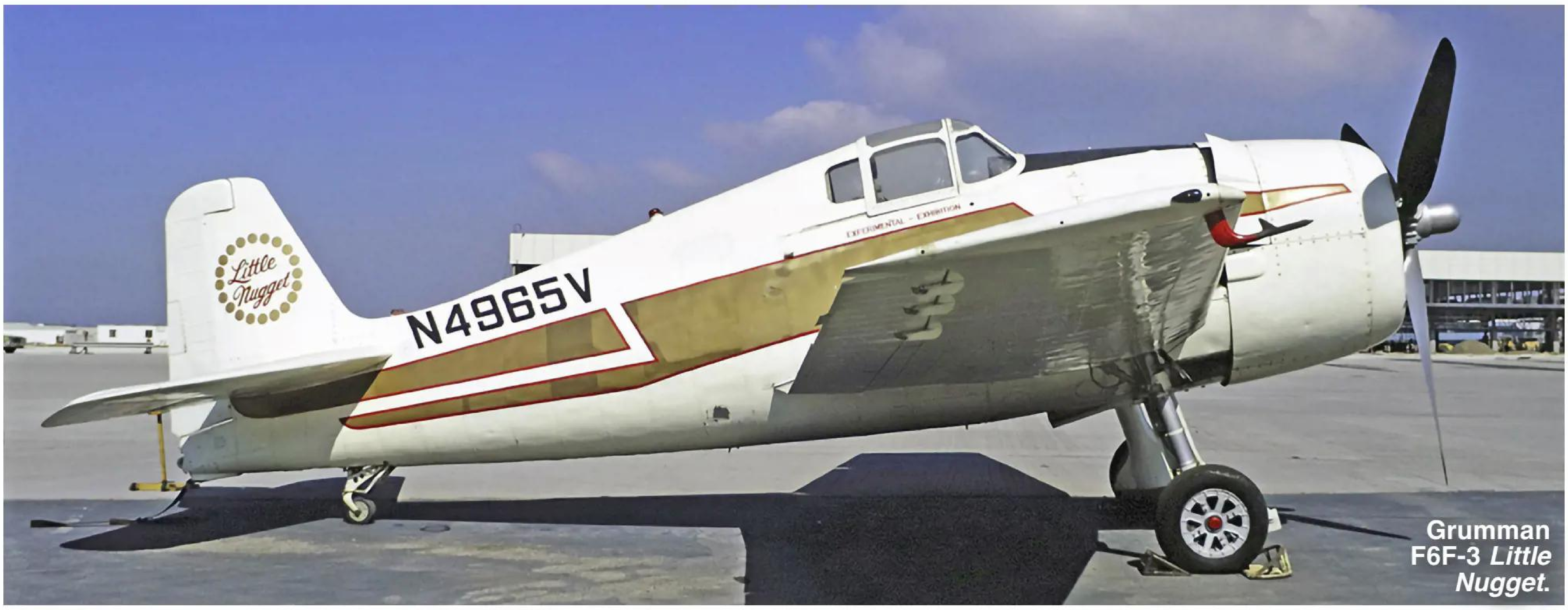
SE HABLA ESPAÑOL

Just finished reading the article on how Yanks Air Museum saved a Catalina. The article discusses just how rare the Catalina has become and questions when readers last saw one. My answer is I saw the beautiful PBY-5A that belongs to the Military Aircraft Museum in Virginia Beach, Virginia, take to the air during the 2019 MAM WWII Weekend. Ten years earlier in 2009, I attended the Geneseo Airshow in New York and the Canadian Warplane Heritage attended with their fine Catalina/Canso. Those were my last two encounters with that American classic.

Bob Becker
East Petersburg, PA

This head-on shot shows the incredible view from the Catalina's fuselage blisters.



Grumman F6F-3 *Little Nugget*.

HELLCAT LISTING

Fabulous job by Rod Lewis and Ezell Aviation on the Grumman Hellcat that graces the cover of the February *Air Classics*. I can hardly imagine all the “blood, sweat, and tears (plus money)” that went into that project — a project that saves a significant chunk of American WWII aviation history. I know not that many Hellcats survived to become civilian aircraft but how about doing a complete listing of all civilian Hellcats and their fates? I am sure most readers would find that very interesting.

Ellis Reed
Auburn, CA

EDITOR’S NOTE: That does sound like an excellent idea. Hellcats that avoided the smelters only did so because civilian owners could figure out different ways for them to work for a living. We had a couple modified as high-altitude mapping platforms while at least one other was modified into, of all things, a fire-bomber. My personal favorite was F6F-3 N4965V *Little Nugget* that was the personal plane of Alaska Airlines president Charles Willis, who had been a Hellcat pilot during WWII. At the time, Alaska was offering “Golden Nugget” service

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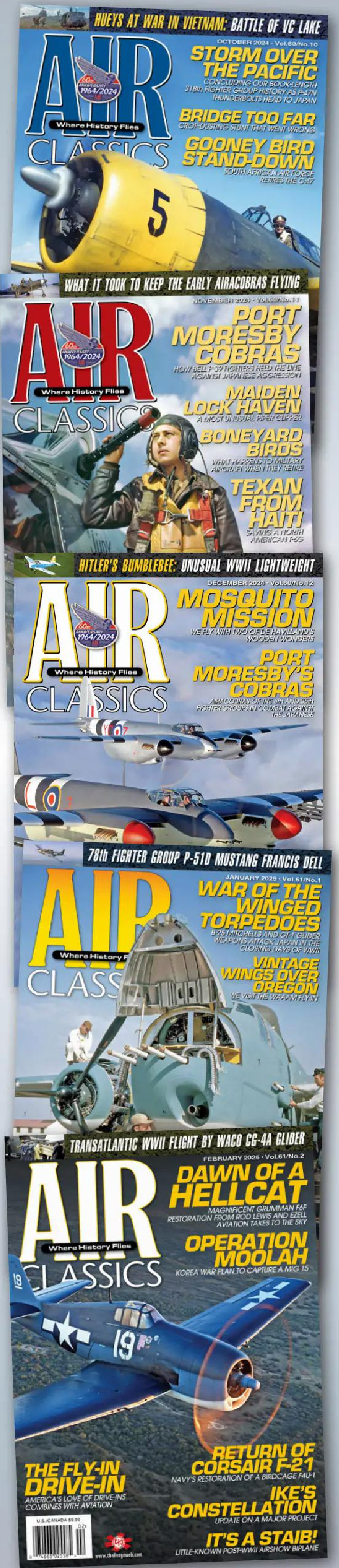
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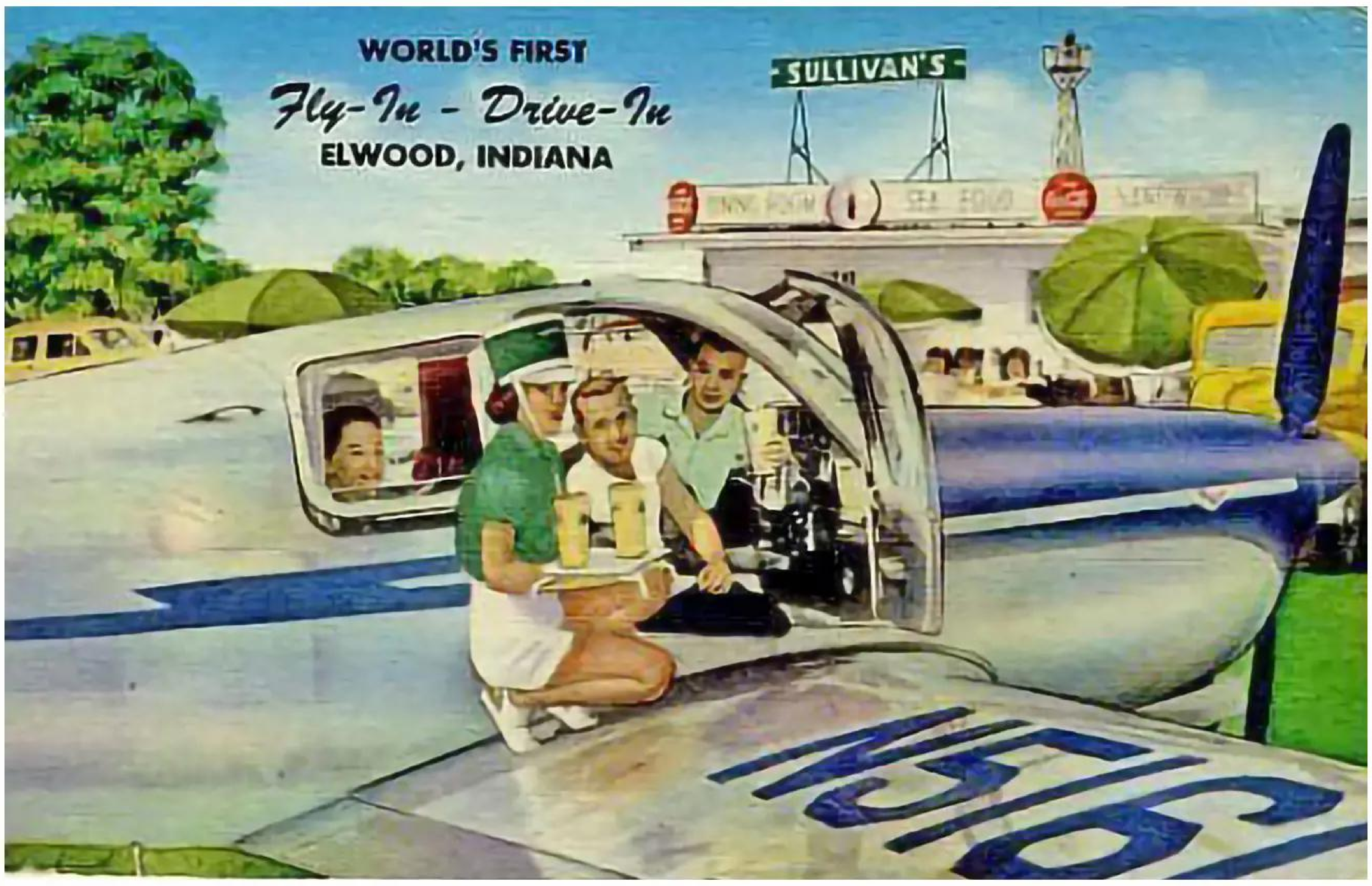
on its airliners, hence the name and paint on the Hellcat. Imagine one of the bean-counter CEOs of a current airline showing up in a WWII fighter? This particular aircraft was heavily damaged in an accident with another owner but it is just about ready to fly after a very lengthy restoration.

MORE AIRPLANE DRIVE-INS

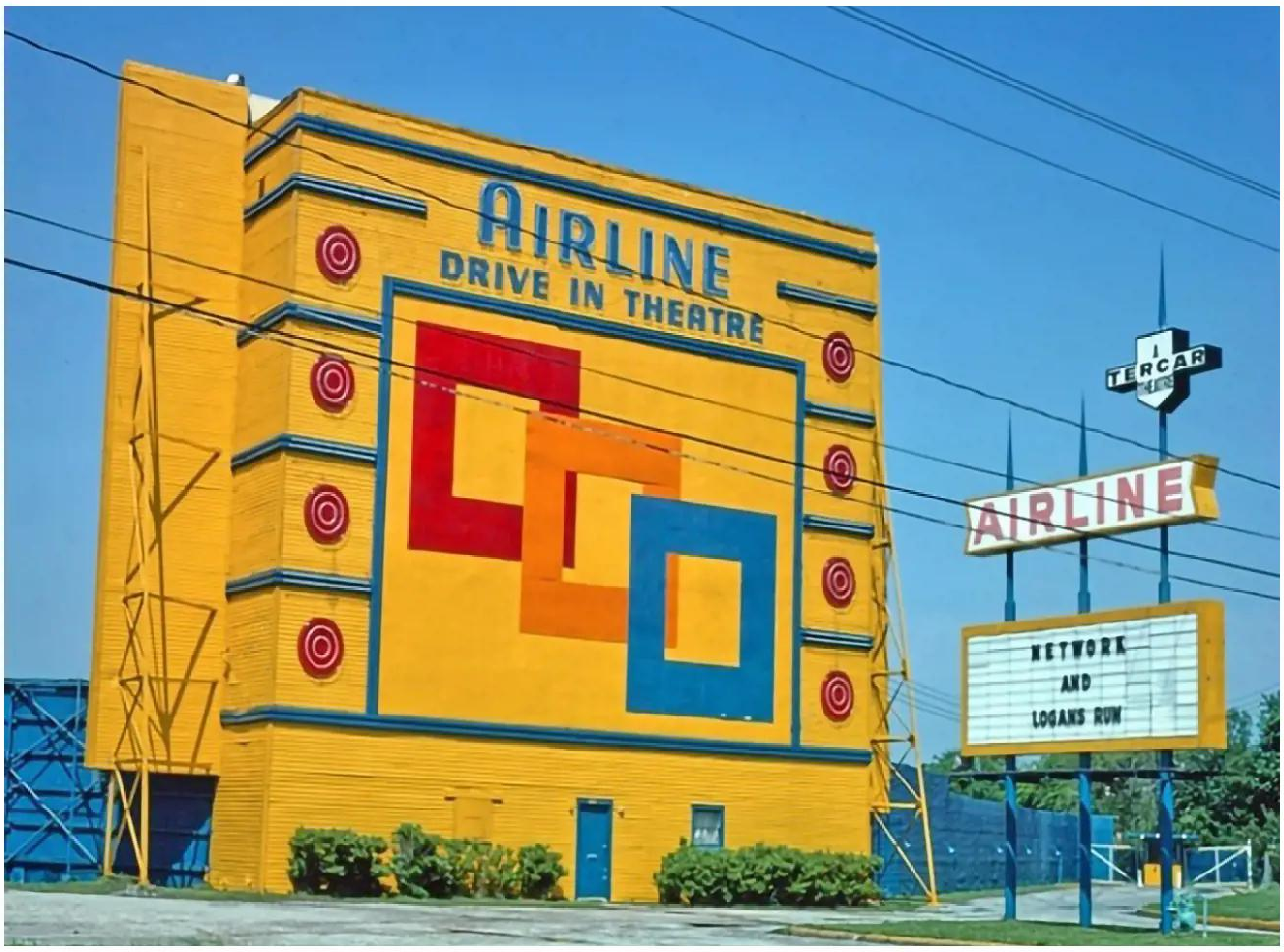
I got a real laugh out of the “Fly-In Drive-In” feature in the February issue. Only in America! The article brought back very vague childhood memories of such a drive-in that was located somewhere in the Dallas area. I think my parents took me to a movie at that location when I was about eight-years-old and I remember there was a very derelict Fairchild PT-26 parked near the refreshment stand that gave us kids something to play on. I am sure there were more such institutions and I hope readers will respond with similar memories/photographs. I am attaching a couple shots of similar memorabilia from my collection.

Howie Samms
Ranger, TX

AC


WORLD'S FIRST
Fly-In - Drive-In
ELWOOD, INDIANA
SULLIVAN'S

Postcard from Sullivan’s Drive-In — “World’s First Fly-In Drive-In” (we are pretty sure it wasn’t) located in Elwood, Indiana.


AIRLINE
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The Airline Drive-In opened in 1950 but its name probably comes from the fact it was on Airline Drive in Houston, Texas, rather than from some form of aviation activity.

WE KEEP THE WARBIRDS FLYING!

Photography by John Dibbs

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